

PLUS CD-ROM Full programs to use with your digital photos – for free!

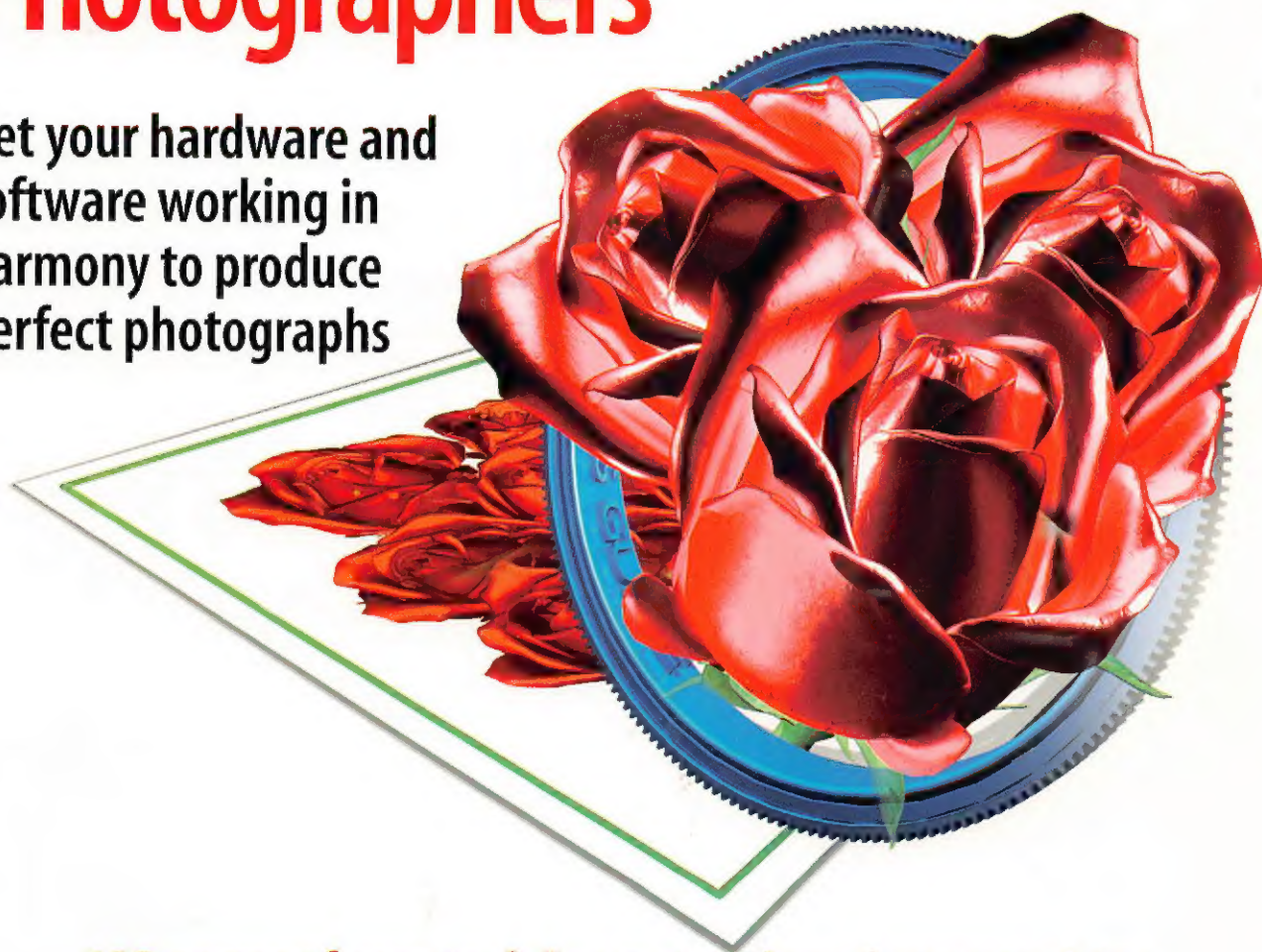
Adobe Photoshop

Photoshop for Photographers



FocusGuide
From the makers of **Computer Arts**

Get your hardware and
software working in
harmony to produce
perfect photographs



**132 pages of easy-to-follow tutorials and expert advice
to help develop your Adobe Photoshop skills**



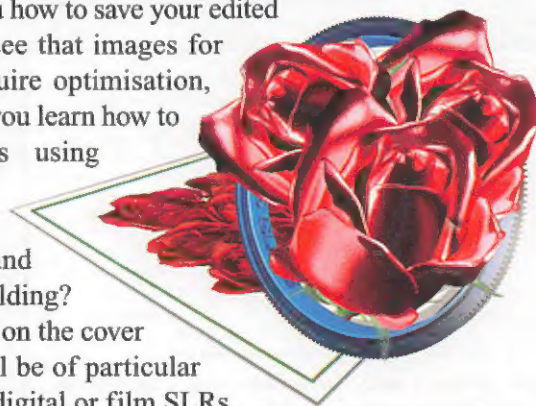
Digital darkroom techniques

Unleash Photoshop's awesome processing power, whether you're a digital camera devotee or a photographer who favours film

With Photoshop increasingly being used these days for high-end graphic design work and web-related projects, it's easy to forget that it was originally developed to enable photographers to retouch images that had been captured on film and scanned into a computer. Photoshop is still an invaluable tool for the film photographer, although more and more photographers are choosing to go digital. But, despite the ever-increasing sophistication of digital cameras, many of the images they capture will still need correcting – in fact, the automated settings such cameras make use of will often introduce their own problems.

Whether you're a digital convert or a die-hard film fanatic, the first thing you'll learn in this Guide is how to get your images into Photoshop and how to organise them. Next we'll show you how to make use of Photoshop's 'digital darkroom' tools to correct common photographic problems such as light and colour imbalances, and how to correct problems over which you have no control, like spots, scratches and the curse of the party snapshot – redeye. We also devote a whole chapter to the subject of removing noise from images, and spend time showing you how to save your edited photos effectively. You'll see that images for emailing and the web require optimisation, before having some fun as you learn how to create composite images using elements from different photos – who says your cat can't be King Kong and climb the Empire State Building?

Don't forget the software on the cover disc – Exposure Editor will be of particular use if you're new to either digital or film SLRs.





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Finding your way

Our handy icons hold the key to a wealth of additional information. Here's what they all mean...

With so much to tell you about how you can create perfect photographs with Photoshop, it's hard to find room for all the information we want to pack in. That's why you'll find the special icons that occupy the margins on each page so useful.

As you leaf through the pages, you'll find a range of eye-catching symbols, each of which indicates an extra nugget of knowledge. The icons enable you to identify exactly what kind of information you're

dealing with. These handy hints and tips are always relevant to the topic that's being discussed, and will help you develop your Photoshop skills that little bit faster.

Chris Schmidt is an experienced professional photographer and regular contributor to our sister magazines *Digital Photo Effects*, *Digital Camera Shopper* and *Digital Camera Magazine*, so you can rest assured that all knowledge provided here is both authoritative and thoroughly tried and tested.



On your CD-ROM

Tutorial files, trial software and more besides is included on your CD-ROM. Every now and then, we remind you of this by flagging-up the disc icon and listing the relevant disc contents.



Take note

You'll find a number of these nuggets of knowledge scattered throughout the Guide. They're crammed with useful information that complements the main text perfectly.



Top tips

This indicates an expert tip. Anything sheltered beneath this icon is guaranteed to reveal a useful tip, or advice about Photoshop's range of tools, options and features.



Watch out!

The 'skull and crossbones' sign means proceed with caution. You'll find some important points outlined below this icon, which you should certainly take seriously.



Further information

We'd like to tell you absolutely everything, but there's just not enough space. Instead, we refer you to other useful resources – such as websites and specialist books – for further reading.



Links

When we refer to a website, we may pull out the web address in the sidebar to make it easier for you to read and remember.



Shortcuts

Carrying out common tasks again and again can get a little tedious. Our handy shortcuts show you how to perform these tasks with a few deft key-presses, saving you lots of time and effort.

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Chapter 1

GETTING YOUR IMAGES INTO PHOTOSHOP

In this chapter...

- ☐ *Import images from your digital camera*
- ☐ *Keep track of the images stored on your computer*
- ☐ *Discover how to scan your printed photos effectively*
- ☐ *Clean up your scanned images*
- ☐ *Import images into Photoshop Elements 3*

Before you can start enhancing and editing your images in Photoshop you'll need to get your digital snaps, or printed photographs, on to your computer – we'll show you how

Whether you're a veteran photographer or you've just got your first digital camera, you'll appreciate the importance of transferring your pictures from your camera to your computer. Not only will doing so enable you to work with your images in Photoshop, you'll also be able to email photos to friends, and create slide shows. You can also file your photos more efficiently than if they were left on a memory card, or – in the case of prints – piled in a shoe box under the bed.

The bigger picture

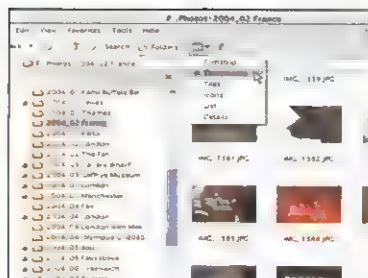
If you're using a digital camera, it's only when you view your pictures on

a computer monitor that you can fully appreciate how effective they are, and whether you've managed to capture all the detail you wanted. You'll also be able to quickly spot any problems with an image. Badly blurred or out-of-focus pictures may have to be written off and put down to experience, but Photoshop is well capable of sorting out most common image problems, so you won't have to worry about losing too many of your precious snaps.

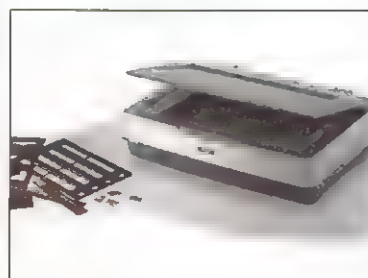
Virtually all digital cameras come bundled with some simple kind of file transfer and image-editing software but, by and large, you can ignore such applications, as you'll



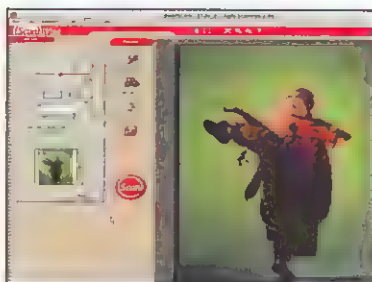
Page 12 Import your images using a USB cable, docking bay or media reader



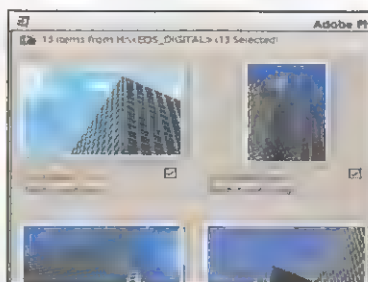
Page 13 Keep on top of your image collection through intelligent filing



Page 14 Photographers still working with film will need to scan their images



Page 15 Optimise the quality of your scans by choosing the right settings



Page 16 The import process is made easy for Photoshop Elements 3 users



Page 17 Keep track of your images in Elements with the Organizer utility

need nothing more than a USB cable and a copy of Photoshop to begin the task of importing and sorting out your images.

Importing film

Despite the surge in popularity of digital cameras, many photographers still prefer to work with film and printed images. If you're one of these photographers you'll have to take a slightly more long-winded route before you can start working on your images in Photoshop.

Firstly, your pictures won't be digitised, so, unlike your digital counterparts, you won't be able to enjoy the benefits of getting your

pictures on to the computer as soon as you get home. Instead you'll have to wait for the film to be processed, before scanning your images and converting them into a format that Photoshop can recognise.

Whichever method you choose, you'll end up with a collection of images on your computer that are ready to be manipulated and enhanced in your favourite image editing application; they can then be printed, or included in a digital slide show or photo album. However, before we start to get ahead of ourselves, let's look at the different methods of transferring your photographs on to your computer.

Importing digital images

You can connect a camera to your computer via USB or a docking bay, or use a card reader



USB cable

USB (Universal Serial Bus) is a 'plug and play' interface between a computer and a remote device. USB connections are now widely used for all manner of devices, from the mouse through to scanners and printers, and enable you to connect hardware to your computer without you having to reboot in order for it to be recognised.

Once you've filled your digital camera's memory card, you'll need to transfer your images on to your computer. For the novice computer user this may seem a daunting task, especially if you're not too sure about where to plug in the cable. However, the process is in fact quite straightforward, regardless of whether you have a Windows or Apple Mac computer, as your operating system will do much of the work for you.

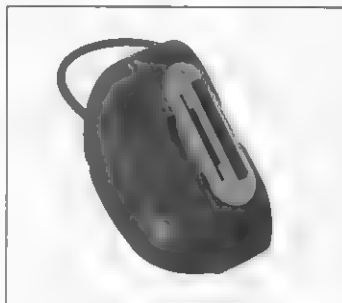
The most common method of transferring files is to take the USB

cable that came with your camera, and plug one end into your computer and the other into your camera. You can then turn on your camera and, after a moment, a Windows computer will start to guide you through the transfer process, while a Mac will provide access to your images through an additional drive icon that appears on your desktop. Cameras with docking bays work on the same principle, and either method will enable you to simply drag and drop your files on to your computer, ready to be opened in Photoshop.

CARD READERS

The principle is the same, but using a card reader makes life easier

Another way of getting your photos on to your computer is to use a dedicated piece of hardware called a card reader to transfer the images from your camera's removable memory card. The reader can be left permanently plugged into your computer, and all you need to do is remove the card from your camera and insert it into the reader. Such a method is particularly useful if you don't want to take your camera with you every time you want to download some images, or if your camera is mounted on a tripod in a studio. If you're buying a card reader, you'll need to make sure that it's compatible with your particular memory card.



Many media readers support a number of formats, enabling you to transfer images from different cameras

Organising your images

As your photo collection grows you'll want to be able to locate specific images quickly

One downside to owning a digital camera is that your computer can quickly become inundated with images. The sheer ease of taking and storing photos means you'll soon find that your hard drive is filling up with hundreds, if not thousands of pictures that you'll quickly lose track of if you don't keep them organised.

Photoshop CS features the powerful File Browser, while Elements 3 has the handy Photo Album software, and these can certainly help you organise your images, but putting

a little thought into where you save your photos will help you on those occasions when you don't have the time or the inclination to apply keywords to each and every picture you've taken. At the most basic level you'll find that storing images within a common folder, such as the Windows My Picture directory, will help, but creating sub-folders within this, and using a consistent naming convention that includes information such as date and location, will help you to dig out those images you took a few holidays back.



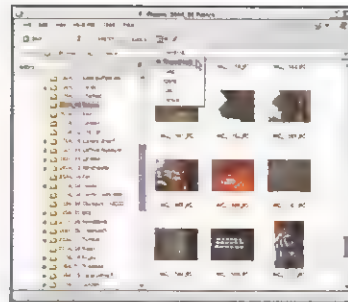
Naming folders

If you're naming your folders to make them easily identifiable when you're browsing your system, you might want to use the year/month/location folder naming format. This way your folders will be listed chronologically, so the 2004_12_xmas folder will always appear before the 2005_04_easter folder, for example.

CHANGING FILENAMES

Do you really need to make the file names more recognisable?

When you transfer images to your computer they'll invariably have illogical file names that you'll be tempted to change. However, changing every filename from a numerical format such as 'IMG_2878.JPG' to something like 'BeachSunset.jpg' will take time, and won't make it any easier for the computer to recognise the files; you'll also lose the sequential numbering of your images. We'll be looking at the asset management controls Photoshop provides later on, but for the time being we recommend that you leave the filenames as they are. You can easily get an idea of how your images look by setting your file management software to thumbnail view.



Providing logical folder names is more important than spending lots of time typing in individual file names

Scanning images

Film photographers will need to scan their images to get them on to the computer



Size is everything

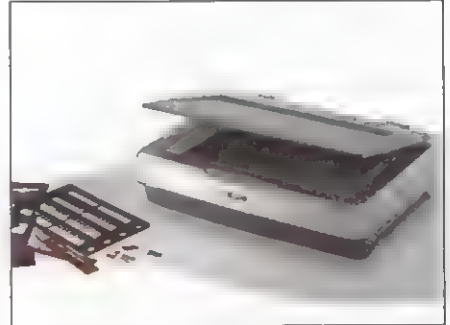
When you're scanning your photographs, you should configure the software to process the image at a suitably high size and resolution. Once your image has been converted into pixels, you'll find reducing the size of your image much easier than enlarging it, which will always result in distortion and pixelation.



Losing quality

The digital transfer process creates an exact copy of the original file, while a scanner is effectively taking a photo of your original photograph, so you'll inevitably be losing some quality, regardless of how experienced you are. However, you can minimise this loss by configuring the scan effectively.

Many photographers have yet to be caught up in the digital revolution, and are happy to continue working with film. If you're one of these photographers, and you want to work with your images in Photoshop, then you'll need to scan them into your computer. There are various types of scanner on the market, as you'll see below, although the most popular model by far is the A4 flatbed. A scanner will come with software that will take you through the scanning operation, but there's no getting away from the fact that



The flatbed scanner is the most popular consumer scanning device, although more impressive film conversions are possible using slide scanners

scanning is a slow and laborious process compared with transferring files from a digital camera.

CHOOSE YOUR SCANNER

FLATBED scanners are the most affordable and popular type. As with a photocopier, the image is placed on a glass scanning surface, and the scanning head passes beneath to capture the image.

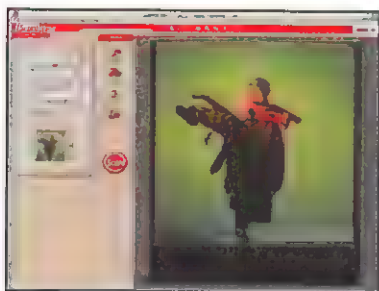
SLIDE scanners are popular with serious film photographers, as they accept regular slides or negative transparencies. The price of such scanners is coming down, and they're well worth considering for a good balance between cost and quality of results.


DRUM scanners produce the best-quality scans, but size and cost make them impractical for anything other than commercial use by publishers or printing companies.

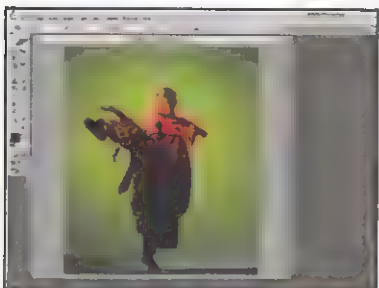
SHEETFEED scanners can be likened to a fax machine. They're cheap, and have a smaller footprint than flatbed models, but the results can suffer if the original image slips while it's passing over the scanning head.


Preparing scanned images

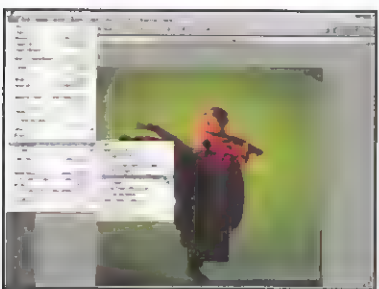
Discover how to get the best quality scans possible, and how to fix common problems




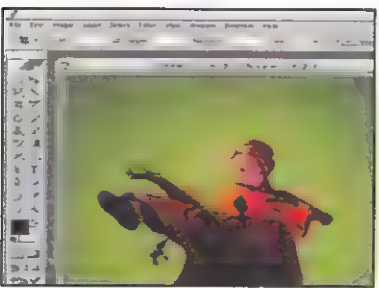
 With TWAIN integration you should find that you can import images directly into Photoshop by choosing the relevant option from the File > Import menu. Your scanning software should then load, and you can choose the most suitable settings for your image. Keep things generous, with a high image resolution of at least 150dpi, and leave the scale set to 100% to avoid distortion.




 When you're happy with the settings OK the scan, and sit back and wait for your scanner to do its thing. When the process is complete you should find yourself back in Photoshop, with the image file available and ready to save. Before you do this, zoom into your image at 100%, and check whether any further adjustments need to be made.



 One of the most common problems created by scanning is misalignment of the image. There will be occasions when, no matter how carefully you position your image, the scanned image will be slightly askew. To counter this go to File > Automate > Crop and Straighten Photos.



 No configuration is necessary for this tool as it's totally automated. Photoshop effectively looks around the edge of the image for any erroneous background detail, which it uses to straighten the image before cropping excess space. You could run through the process by hand, but if you're scanning a large number of images this automated process will save you a fair amount of time.



TWAIN

Scanners use TWAIN technology to enable you to scan an image directly into an application such as Photoshop. Without TWAIN you would have to close your original app before loading the scanning software and running through the process, and then save the file and load it back into Photoshop. Curiously, the TWAIN acronym doesn't officially stand for anything at all, though some call it Technology Without An Important Name.



Keep it straight

You can usually align a photograph with the sides of the glass to keep the image nice and straight, but this could prove difficult if you need to place a smaller image in the middle of the scanning bed. Try placing a transparent ruler on the glass, and position the photograph against that to keep the sides parallel.

Importing images into Elements

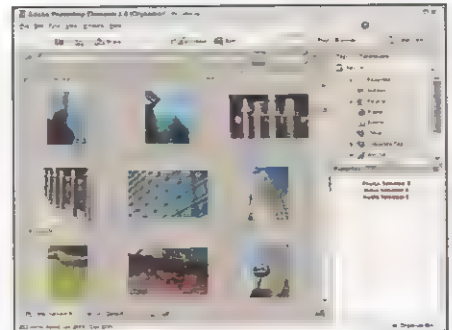
The process of importing files is much simpler if you're using Photoshop's 'little brother'



Don't panic

If the Adobe Photo Downloader doesn't appear automatically when you connect your camera or card reader, you can run through the process manually from within Elements. Click the Photo Browser button in the shortcuts bar, then click the Get Photos button to choose your camera or card reader from the list.

Elements 3 users will find the process of importing images easy, requiring little thought other than deciding on your preferences for the way in which your images are imported. With Elements installed, you'll find that the Adobe Photo Downloader automatically loads as soon as you attach your camera to your computer, or insert a memory card into your reader. You're then presented with the interface shown below, in which you can specify a number of settings, such as where your images are to be imported



Once you've imported your images via the Photo Downloader your images are made available in Elements' Organizer component

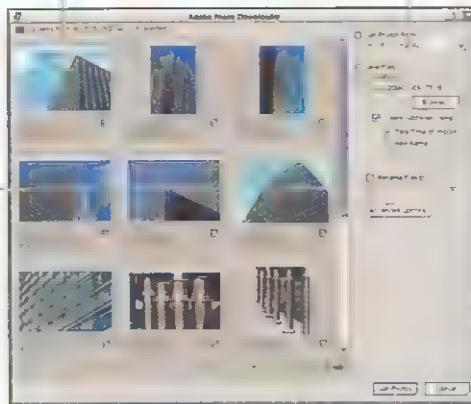
from, where they should be saved and whether any file renaming should be carried out.

THE ADOBE PHOTO DOWNLOADER

Once the Photo Downloader application loads you'll have access to thumbnails of your images. Remove the tick below an image if you don't want to import it.

You may prefer to batch-process your images, and change their file names on import. Check this option, and enter a prefix, and your images will be sequentially numbered.

Additional controls are available at the foot of the preview area that enable you to rotate your image, and zoom in for more detail.



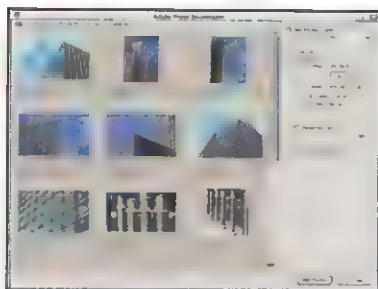
You may have various input devices attached, such as multiple memory cards in your media reader. Use this drop-down list to select your preferred source.

Using the Save Files options you can determine the exact location in which your images will be stored, and create consistent automated folder names.

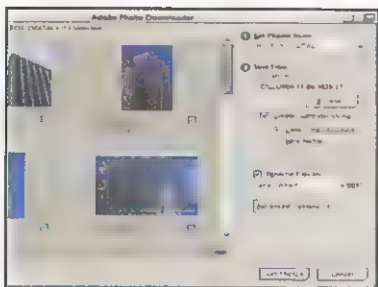
Once you've entered your settings click the Get Photos button, and sit back while Elements does all the work for you.

The Elements Organizer

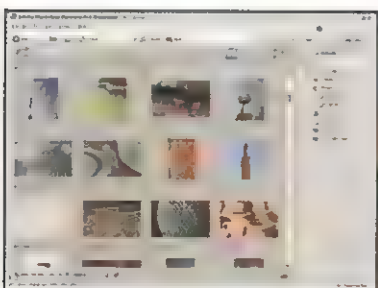
Familiarise yourself with the process of cataloguing your images in Elements 3



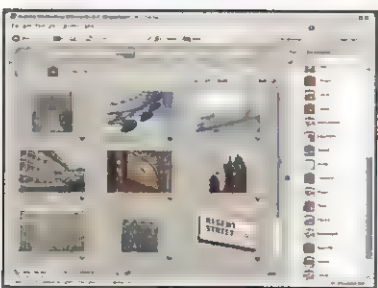
To begin the process you'll need to either attach your camera to your computer via a USB cable, or plug your memory card into a card reader to prompt the Adobe Photo Downloader; you can specify which images should be imported by leaving the relevant boxes checked. If your images aren't available use the 'Get Photos from' drop-down to choose the appropriate input device.



Next, you need to specify the location to which your images will be transferred. Use the Browse button to change the default directory if necessary, and check the 'Create Subfolder Using' option to keep your images grouped together in their own folder. If you decide to change the default image filenames check 'Rename Files To', and enter a prefix. When you're ready click on Get Photos.



Transfer may take some time, depending on the number of images involved. When the process is complete the Photoshop Elements 3 Organizer will open. The interface gives you access to all your images in the form of thumbnails, although, as you'll discover, if you constantly add new images it can soon become difficult to locate individual or related files, so you'll need to organise them.



At the right-hand side of the Organizer interface you'll see a column headed with tabs for Tags and Collections. The latter option allows you to group related images, while the Tags option enables you to create your own keywords and associate them with particular images, making it much easier to filter photos from your collection.



Organising keywords

It's worth taking time to organise your keywords early on, as if you add new ones in the future older images won't be recognised. However, if you've already applied keywords through another application then the chances are that Elements will recognise and import them for you, which will save you having to type them in again.



Adding tags

The tagged keyword method employed by Elements is a powerful tool that you'll soon come to rely on. You can create new tags using the shortcut icon at the head of the Tags column, and tags can be associated with an image by dragging them on to a thumbnail.

IMPORTING AND WORKING WITH RAW FILES

High-end digital cameras support the RAW file format, which ensures the best possible image quality, but with so many variants on the format you'll need to know how to import the files

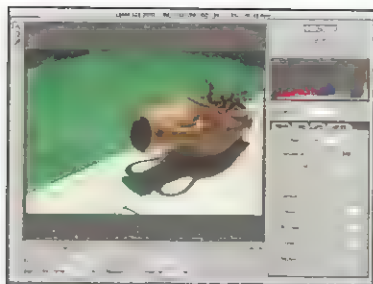
The vast majority of digital cameras save images in the ubiquitous JPEG format, and some cameras will also support the TIFF format. In the case of both formats, the image files are compressed by the camera to save space on your memory card, and while this doesn't cause any discernable problems for most people, for professional photographers the compression process can lead to an unacceptable loss of image quality.

Compression and noise

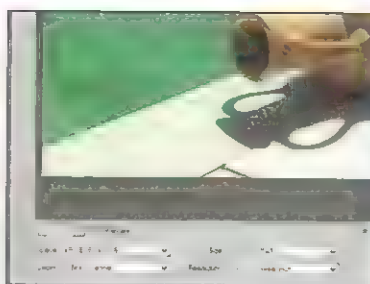
Compression methods vary, but the general idea is that when an image is saved the camera analyses it to

identify areas in which the level of detail can be compromised, to save on file size with minimal loss in quality. Nine times out of ten this doesn't cause problems, but on the odd occasion you may encounter factors such as exaggerated noise, or 'ghosting' around contrasting edges.

Many of the newer professional and mid-range digital cameras support the RAW file format which, as the name suggests, preserves the original image data by not applying potentially destructive compression. As the RAW format doesn't involve compression, related problems are avoided, although you'll need to know how best to process your



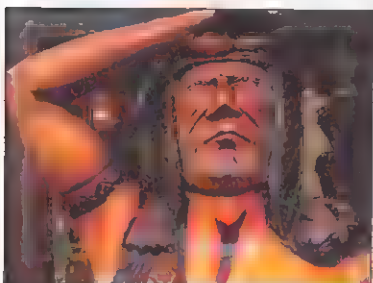
Page 20 Get to know the Camera RAW plug-in for Photoshop and Elements



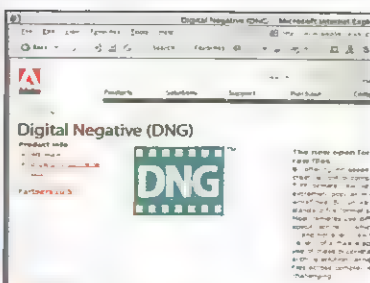
Page 21 Use the Camera RAW plug-in to determine image size and resolution



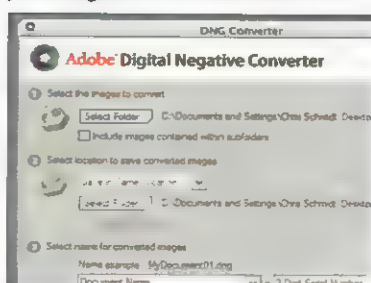
Page 22 With the right settings applied your images shouldn't need much work



Page 24 See how the Camera RAW plug-in can counter lens problems



Page 26 Discover the potential of the new Adobe Digital Negative format



Page 27 Converting files from RAW to DNG is a straightforward process

digital images prior to working on them in Photoshop. Adobe has made this easy by developing the Camera RAW plug-in, which provides all the tools you need to import and optimise your original light and colour settings prior to opening the file within Photoshop.

Variations in the RAW format

The Camera RAW plug-in provides a comprehensive range of tools, but many of them will be a little confusing to the novice user, so you may want to consider whether going through additional processes when opening every image is necessary. Another issue to be aware of is that

there are no agreement as to what constitutes the RAW format. This has led to a great deal of variation between camera manufacturers, and even between models from the same manufacture. A RAW file created by a Canon 300D won't necessarily be recognised by the Nikon D70, for example, but again Adobe has come to the rescue, with its Digital Negative format. You can freely download an application that recognises a wide range of RAW proprietary formats, and converts them into this common format, so you can ensure that your original, uncompressed images are available to people with different cameras.

The Camera RAW plug-in

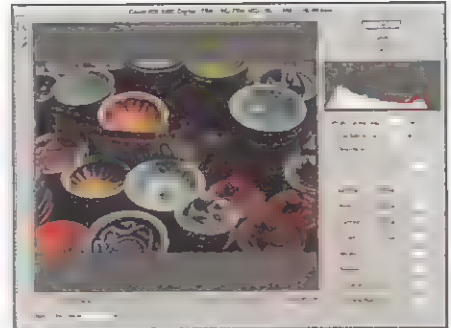
Every time you open a RAW image in Photoshop you'll be presented with this utility



Keep up-to-date

Even Photoshop CS users may be running outdated versions of the Camera RAW plug-in, as it has been updated since CS was released. For the latest version visit the Adobe website, and select the Help > Updates option to go to the relevant page. Elements users should use the Help > Online Support option.

With so many variations on the RAW format it's impossible to open a RAW file straight from its source. Fortunately, both Photoshop and Elements 3 are able to open and process RAW files using the Camera RAW plug-in utility, although it's important to make sure you have the latest version of the application. Updating the utility is a simple (and cost-free) task that should be carried out periodically; by getting hold of the latest version you'll have support for the largest-possible selection of RAW formats, and you'll also be



ImageReady provides a simplified interface for the Camera RAW plug-in, with all the essential controls available when RAW files are opened

able to take advantage of new features, such as the Adobe Digital Negative (DNG) format.

THE CAMERA RAW INTERFACE

A selection of tools are available, including the familiar Zoom and Move tools and a White Balance Tool for quick adjustments.

The large preview area provides a real-time indication of how your adjustments and settings are affecting an image.

The controls at the foot of the interface provide options for controlling the colour space, size and resolution that your image will inherit.



Choosing to work in Basic or Advanced mode will affect the number of option tabs available. Lens and Calibrate are missing from Basic mode, for example.

The histogram enables you to quickly view and interpret colour channel information within your image.

The main controls are grouped under a series of tabs. However, you may find the predefined options, which are available through the Settings drop-down menu, easier to use initially.

Adjusting image attributes

Getting the size and resolution right is vital if you're to present your photos at their best

The controls at the foot of the Camera RAW plug-in interface enable you to adjust basic image settings, and, if the more involved settings located at the right of the interface appear overly complicated, then you can stick to using these simpler controls initially.

The Space options should generally be the same as your Photoshop RGB working space; keep in mind that the source profile for camera RAW files is usually native to your camera, although the options here will enable you to change this if necessary. With

16-bit support in the latest version of Photoshop you can include more data, if your camera supports it, through the Depth options. The Size settings specify the pixel dimensions of your image, with the default size depending on the original size of your image, while Resolution adjusts the amount of pixels in the image. Bear in mind that increasing these settings can result in pixelation, so any such adjustments might be better carried out through dedicated software such as Genuine Fractals or Extensis pxl SmartScale.



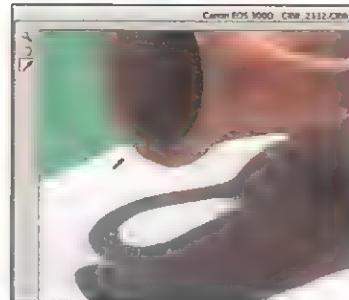
Moving your image

The Move Tool should be familiar, as it features in the main Photoshop toolkit. However, holding down the spacebar is probably a more convenient keyboard shortcut method of prompting the tool. If you keep the spacebar held down, you'll be free to move your image around without having to constantly switch between tools.

CAMERA RAW TOOLS

There aren't many tools to choose from, but they're all useful

Located towards the upper-left corner of the Camera RAW interface is a small selection of tools that make handling RAW files a little easier. The Zoom Tool will be familiar, and this is complimented by the drop-down options below the preview area. The Move Tool is also borrowed from the main Photoshop toolkit, and enables you to move your preview around. Arguably the most useful tool is the one that looks like a regular eyedropper; this is the White Balance Tool, and it provides a quick and easy way of defining an image's white balance, meaning that you don't need to manually configure the settings using the multitude of sliders.



The White Balance Tool provides an excellent method of establishing basic colour balance prior to fine-tuning

White balance

Getting the colour temperature of your image right will help to remove blue or orange tints



White Balance Tool

The White Balance Tool is ideal for making quick and easy settings, as long as you know where to sample. This may involve some trial and error, but, if you click on regions that you think should be a neutral grey or white colour then you'll soon see how the tool can help you to achieve some impressive initial results.

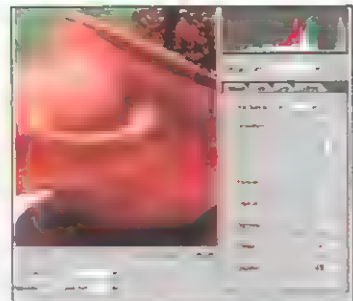
When a RAW image is captured the camera records the white balance, along with other image information, and the Camera RAW plug-in uses this information to create the initial settings for an image. Ambient temperature can have some dramatic effects on an image's white balance – if an image has a high colour temperature you'll find that it takes on a bluish tint, while 'cooler' images tend to display more orange. To correct this you can use the Temperature slider under the Adjust tab. Moving the slider to the

left will help to correct images that have a low colour temperature, while moving it to the right will balance warmer images. You may find that the White Balance Tool will help get you started, or you can use the predefined White Balance options available through the drop-down list at the head of the tab. The Tint slider compliments the White Balance, as it helps to compensate for any green or magenta tint. Reducing the tint by moving the slider to the left will add green, while moving the slider to the right will add magenta.

MAKING TONAL ADJUSTMENTS

Balance the exposure for more vivid colours and a stronger image

Below the White Balance sliders are five controls for making tonal changes to images. Exposure adjusts the brightness or darkness of an image; if you hold down the [Alt] ([Option]) key while moving the slider you'll be able to see if the image is too bright, as overexposed areas will appear white. The Shadows slider provides control over black areas of an image, and Brightness adjusts overall brightness by compressing shadows and expanding highlights, while the Contrast slider adjusts midtones. Brightness and Contrast are best adjusted once you're happy with the Exposure and Shadows; you can then adjust colour content using the Saturation slider.



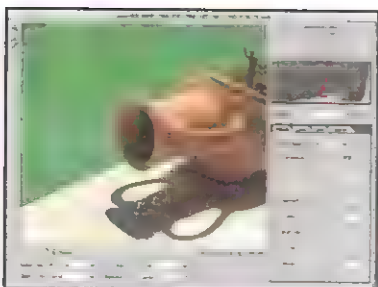
The Adjust tab provides the main controls for balancing your image's white balance and exposure settings

Basic RAW adjustments

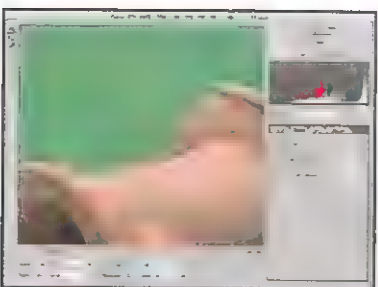
You can make some simple but impressive changes to an image before you even open it



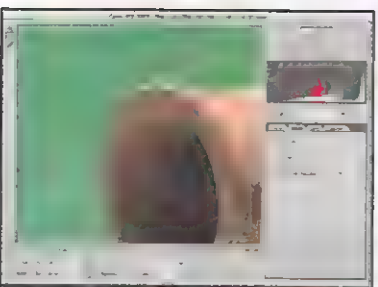
Open a RAW file in Photoshop, or use the sample file on the CD; the Camera RAW plug-in will intercept the file, enabling you to make initial adjustments prior to working on it. There's some slight overexposure visible in the tiles, but before we make any manual adjustments select the White Balance Tool, and sample a white or mid-tone grey to see how this makes a dramatic improvement.



Once you're happy with the white balance, you can then adjust the Temperature and Tint, to counter any colour tints that may have appeared. Drag the Temperature slider to the left to correct an orange colour cast, or right to correct a blue tint. The Tint setting will emphasise greens if increased, or add magenta if decreased.



When you've balanced the light and colour settings, you can move on to the Detail tab. These settings are best adjusted with the image at 100% magnification or higher, so use the Zoom Tool, or the magnification drop-down at the bottom left of the image. The Sharpness slider is fairly self-explanatory, but be careful not to go too far, or noise may appear in less defined areas of the image.



If noise becomes a problem you can tackle it with the Luminance Smoothing and Colour Noise Reduction sliders. The former balances out greyscale noise, while the latter reduces chroma (colour) noise. Experiment with the settings by previewing your image at 100%, and balancing-out the noise in the water while retaining the sharpness of the pot.



Sample image

If your camera doesn't support the RAW format, and you'd like to see how the Camera RAW plug-in works, open the CRW_2332.crw file from the CD; the image was taken using the Canon EOS 300D, and you can use it to experiment with the available settings.



Recognising noise

Noise is as big a problem for digital photographers as grain is for film photographers. You can identify noise by looking at large areas of similar colour within your image at 100% magnification. Luminance noise will be apparent through a grainy texture, while chroma, or colour noise will take the form of coloured speckles. We'll look at noise reduction in greater detail in Chapter 7.

Correcting lens problems

However good your camera, the lens can distort images in a number of ways



SLR Cameras

The Standard Lens Reflex camera is better suited to the more capable photographer, as it's up to the photographer to make the most appropriate settings for different shots. Interchangeable lenses and larger sensors make SLRs capable of taking pictures that are superior to those you can get from most consumer compacts.

Many factors are involved in taking a good photograph. Having an eye for a picture, and being in the right place at the right time help, but you'll also get better results if you have a good grasp of how your camera works and can make the most suitable settings for every shot, rather than relying on the camera's preset modes.

You may also find you're limited by the capabilities of your hardware. A top-end Digital SLR in the right hands will always produce better results than a cheap point-and-shoot

camera, but even the best kit has its limitations. Digital SLRs rely heavily on interchangeable lenses, which make them more flexible than fixed lens consumer models, but these lenses can create problems such as barrelling, vignetting and chromatic aberration, all of which can detract from an otherwise good photograph. Such problems can be countered to an extent using the options under the Lens tab of the Camera RAW Settings area. This particular tab is only available when the Advanced options are selected.

COMMON LENS DEFECTS

If you can recognise the problem then you're half-way to fixing it

Among the common lens-related problems the Photoshop Camera RAW plug-in can counter is chromatic aberration, which occurs when the lens focuses on different frequencies of colour, resulting in subtle red or purple fringing around the edges of contrasting objects; the R/C and B/Y controls under the Lens tab compensate for red/cyan and blue/yellow fringing. Vignetting causes the edges of an image to appear darker than the centre; the effect is most obvious towards the corners of a picture. The Primary slider will lighten such areas, while the Midpoint slider controls the distance over which the effect is applied.

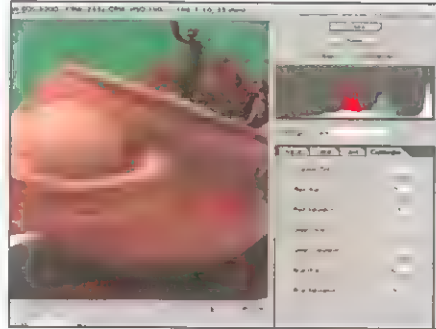


Chromatic aberration is clearly visible in this image as purple fringing in the brighter areas

Advanced colour adjustments

Use the Calibrate tab to correct problems caused by differing colour profiles

The final tab of the Camera RAW plug-in's Advanced settings enables you to calibrate an image. There may be occasions when the colours in the plug-in preview don't look as you expect, due to a difference between the camera's profile and that of the Camera RAW plug-in. There may also be discrepancies in photos taken in unusual lighting conditions that are outside the range for which the plug-in can compensate. The Calibrate tab provides a range of sliders that you can use to adjust the plug-in's internal camera profile



The Calibrate options within the Camera RAW plug-in become available when the Advanced option is selected

to render non-neutral colours differently, so that you start to see your colours as you anticipated.



Colour profile

Hardware or software that records or plays back visual data relies on a colour profile to ensure that it captures and displays images as intended. Ideally, the calibration tab should never be used, but, as your camera, software and monitor all have their own profiles there may be occasions when manual intervention is necessary.

CALIBRATING YOUR IMAGE

TO ACCESS the Calibrate tab you'll need to have the Camera RAW plug-in set to Advanced mode.

THE SHADOW TINT slider is used to correct any colour cast that may be specific to shaded areas of your image. Normally you'll be able to do this using the Temperature and Tint sliders under the Adjust options, but in the case of more problematic photos you'll need to use the Shadow Tint option to fine-tune the image.

USE THE RED, green and blue hue and saturation sliders to adjust the primary colour channels your image is built around.

ALWAYS ADJUST the hue sliders first, paying careful attention to how your changes affect the preview before adjusting the saturation.

DECREASING hue values has the effect of an anti-clockwise movement of a colour wheel; increasing hue values has the opposite effect.



Monitor calibration

There's little point in fine-tuning the colours of your image if your monitor isn't properly calibrated. We'll be looking at this subject in more detail in Chapter 4, but a standard installation of Photoshop provides all the tools you need to calibrate your hardware, so that you can be confident the colours you see are true.

The Digital Negative format

Adobe's new DNG format enables you to harmonise the multitude of RAW image types



DNG download

The utility that drives the Adobe Digital Negative format can be downloaded for free from the Adobe website. Visit www.adobe.co.uk/products/dng for more information on the software, and to get a copy.

With the lack of a common recognised standard for RAW images, a seemingly endless variety of uncompressed image formats have appeared, and to make matters worse the format differs not only between camera manufacturers, but also between individual models.

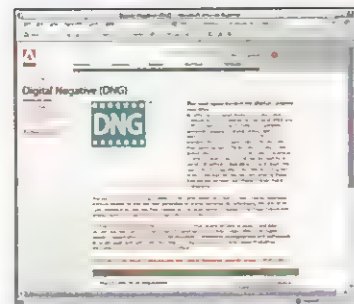
The Camera RAW plug-in supports and recognises a huge number of these formats, although you'll need to download the most recent version of the software to have access to the widest range. However, expecting everyone who wants to view images

to have a copy of Photoshop, and to know how to use the Camera RAW plug-in, is unrealistic, so Adobe has taken the initiative by developing a standard for RAW images known as Digital Negative, or DNG for short. Using the freely downloadable DNG Converter you can process RAW files from over 65 different cameras, and convert them into a common format. The format also enables you to view thumbnail previews of images, so you won't need to open up lots of 20MB files to find the photo you want.

WHAT'S THE BIG DEAL?

Benefits of the Digital Negative format

The DNG format was only made public in the third quarter of 2004, but, assuming that it becomes widely adopted, it will offer a universal method of handling RAW image files in digital imaging software; because it provides a common format for working with images from different cameras it can be easily adopted by manufacturers. By creating and releasing such an open format Adobe has responded to the needs of both photographers and manufacturers. Making the DNG Converter freely available should ensure that the DNG format becomes as ubiquitous in digital photography as Adobe's PDF format has become within publishing.



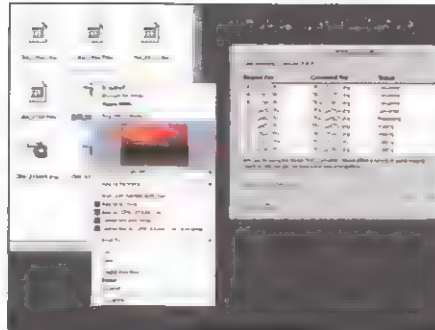
You can get more information and download the DNG Converter software from the Adobe website

Converting files to DNG

For a process with so much potential, the RAW image to DNG conversion is child's play

Using the free DNG Converter software, the process of converting your camera's proprietary RAW files to the more generic DNG format is quite straightforward, with the interface displaying the core settings in logical manner.

The download for the DNG Converter, plus the current Camera RAW 2.3 update, weighs in at less than 3MB, meaning that the utility isn't restricting its initial user base to just broadband users. So, if you haven't already got the software, head over to the Adobe website and



Once your RAW images have been converted to the DNG format you'll find that your images become available outside Photoshop

install it; our annotated guide to the interface below will help you to master the tool.



Lossless and lossy compression

There are two main forms of compression – lossless and lossy. Using a lossless method you'll get the most faithful reproductions of your images with little difference in file size, as the data is simply reorganised.

A lossy method provides the most dramatic improvements in file size, by removing image data considered imperceptible to the human eye.

THE DNG INTERFACE

The first thing you'll need to do is specify the folder that contains the original RAW images you plan to convert.

As part of the conversion process you can decide whether to batch-process the names of the newly created files, and choose a numbering method and preferences for the file extension.

Any preferences you've already set for the conversion process are displayed at the foot of the interface, along with the option to change them if necessary.



You can decide whether you want to save the converted files in the same folder, or specify an alternative one.

The Preferences settings themselves are quite straightforward, and include the option to use lossless compression, so you can preserve original file data.

After you've configured the basic settings you'll be ready to run the conversion process, which is instigated using the buttons at the foot of the interface.

Chapter 3

ORGANISING YOUR PHOTO COLLECTION

As your collection of digital photos expands you'll need to store and organise your images so that you can find what you want, when you want it. Look no further than the File Browser...

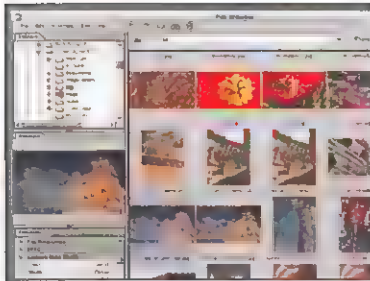
So, you've successfully imported your images into your computer, but now you need to think about how you're going to manage your files. The more photos you store, the more difficult retrieving individual images becomes; after importing just a few memory cards' worth of images you'll find that your collection is becoming too large to keep track of without some serious organisation.

If you take a modest average of around 50 pictures per memory card, after filling it up 10 times you'll have 500 photos, and before you know it you'll have thousands of images sitting on your hard drive. The main obstacle to managing these images is

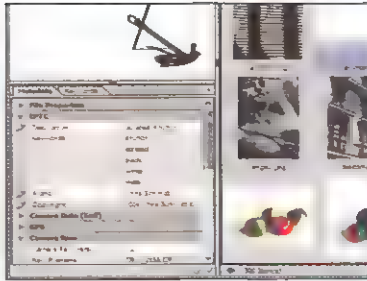
that your computer is practically useless at identifying them. This is because a computer sees an image as being made up of millions of randomly coloured pixels, so it can't tell the difference between a snap of your mum and a picture of that beautiful sunset you managed to capture while on holiday.

The File Browser

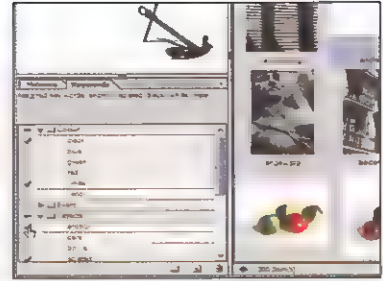
Fortunately, if you're running version 7 or later of Photoshop, you'll find that you have all the tools you'll need for managing your images efficiently, and for giving each photo a unique identity. This will enable you to run searches will that filter



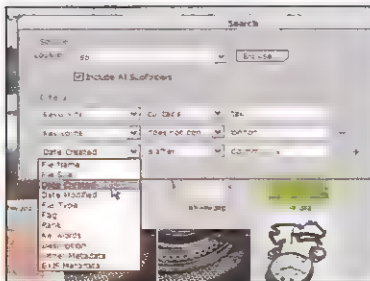
Page 30 Photoshop's File Browser takes the work out of organising your images



Page 32 Make use of the metadata that your camera saves with image files



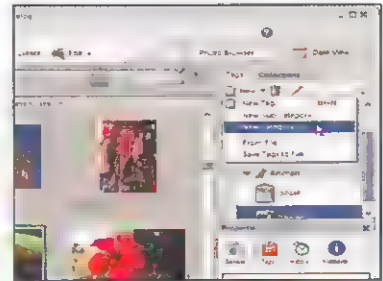
Page 33 Use keywords to help your computer to identify your photos



Page 34 Filter images using the File Browser's powerful Search function



Page 36 Photoshop Elements 3 boasts some powerful asset management tools



Page 37 Import and manage your images with Elements' Organizer utility

your results into a more manageable selection, so you won't have to trawl through hundreds of image files manually every time you want to find a particular photo.

Photoshop's File Browser is a powerful feature that offers a great deal more than thumbnail previews of the contents of your folders. With metadata recognition you'll always have access to information about your original shot, such as the ISO rating, exposure levels and whether or not a flash was used. In addition to this embedded data you can add your own keywords to your images; you can then use these keywords to search your collection, and your

computer will be able to retrieve what you're looking for in an instant.

The Elements Organizer

We'll run through the process of organising your images, and getting the most from your searches, over the coming pages. We'll also look at how you can manage your images in Photoshop Elements 3, using its Organizer feature. There's quite a big difference between Elements 2 and 3, and if you're still running the earlier version then you might find that upgrading could well be a necessity, rather than a luxury, if you're at all serious about sorting out your image collection.

Image management

Discover how the File Browser can help you to organise and search through your images



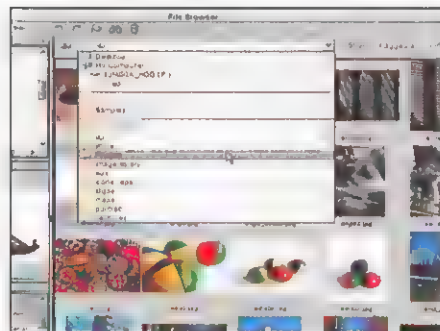
Previewing RAW files

If you're having problems viewing thumbnails of any RAW images on your system, it may be that your images rely on an incompatible RAW format. This should be easily fixed by updating your Camera RAW plug-in, by following the links available under the Help > Updates menu.

The File Browser has been an integral part of Photoshop since version 7. It's accessed via the palette well in that version, while in CS it has earned its own launcher button, which can be found to the left of the palette well in the options bar.

Once the File Browser is accessed you're provided with access to your system's folders, with the graphic content of a selected folder displayed as thumbnails in the preview area.

You can click on an individual image for a larger preview, and view any metadata and keywords that are



Expanding the drop-down list at the head of the File Browser provides access to recently used and favourite folders

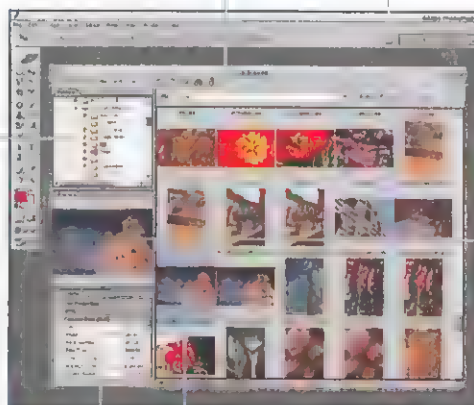
associated with it. But, as you'll discover, the File Browser can do a lot more than display your images.

RECOGNISING THE FILE BROWSER

The menu bar and tool icons provide options such as image rotation, searches and file flagging, as well as giving you quick access to frequently used directories.

The File Browser provides access to your stored assets through familiar Windows or Mac folder navigation.

Metadata and keyword content for a selected image are displayed, so you can view technical details about the shot, and see how Photoshop identifies it.



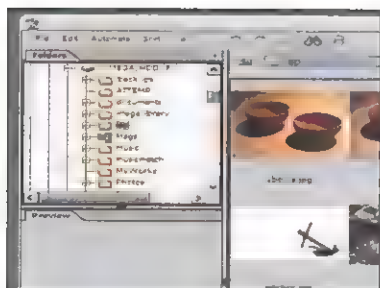
In Photoshop CS, the File Browser is launched via the icon to the left of the palette well, while in Photoshop 7 it's available as one of the tabbed options.

Should you need a closer look at a particular image without opening it, just click on it for a larger preview. You can also expand the preview window if necessary.

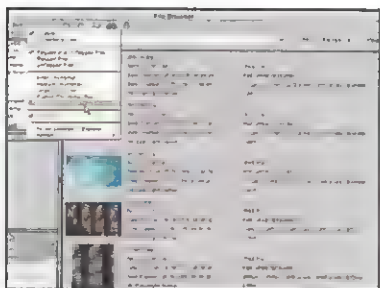
Once a folder is selected, the graphical contents are displayed as thumbnails. You can change the thumbnail size using the Edit > Preferences menu.

Using the File Browser

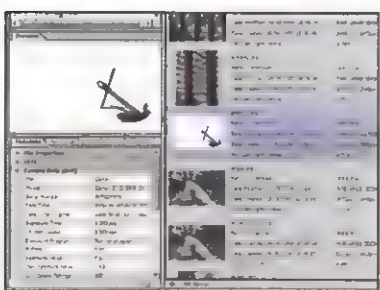
Follow our walkthrough to see how this powerful tool can speed up your workflow



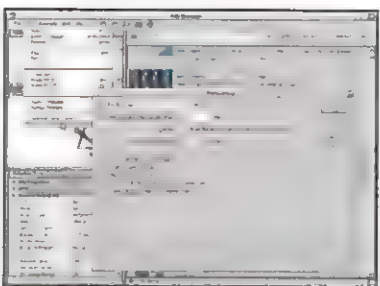
1 Open the File Browser by clicking on the folder icon to the left of the palette well in Photoshop CS, or by clicking on the appropriate tab within the palette well in Photoshop 7. The file browser will only display graphic files, although Adobe files such as Acrobat PDF and Illustrator AI files will be indicated by the appropriate icon.



2 When a folder is selected, its contents will be displayed in the main preview area. By default, you'll only be provided with the thumbnail and filename, though you can use the View menu to specify the amount of information displayed, and to change the size of the thumbnail.



3 If you click on a thumbnail an enlarged version of the file will appear in the preview area on the left. Drag the boundaries to expand the view if necessary before turning towards the lower left pane, which contains the image's Metadata tab. Expand the Camera Data (Exif) option, and you'll see a list of the camera settings for the original shot.



4 You can access the File Browser Preferences from the foot of the Edit menu. You can specify a limit on the file size you can process, alter the number of displayed items in the location drop-down and change the size of your thumbnail previews, amongst other things.



Be patient

If there are a large number of files in the folder being accessed and you haven't viewed the content previously through the File Browser, you may need to wait while Photoshop trawls through the images to build up a thumbnail database of its contents. Once this has been done, you'll have virtually instant access to the thumbnails when you return to the folder in the future.



Metadata

Metadata is information that's embedded within an image file by a digital camera, and includes details such as the make and model of camera and the settings used. We'll look at metadata in more detail on the next page.

All about metadata

Understand the information that's embedded within every picture your digital camera takes



IPTC Metadata

IPTC Metadata is a standard developed jointly by the Newspaper Association of America (NAA) and the International Press Telecommunications Council, from whom the method takes its name. It constitutes a standardised method of embedding descriptions, keywords, categories, credits and origins within an image, and ensures that ownership of an image is clearly defined.

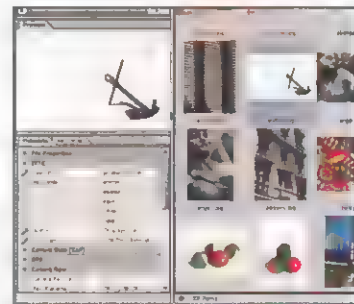
Every time you take a picture with a digital camera there's a short pause while your camera writes the image data to your memory card, and along with the actual pixel data a whole range of other information, called metadata, is stored. Metadata is specific to a particular shot, and can be viewed in the File Browser. With an image selected you'll find the information under the Metadata tab, which is grouped by default with the tab containing an image's keywords, towards the bottom-left of the

interface. Metadata includes basic information about an image, such as the file name, the dimensions and the colour profile that was used. Also included is the all-important Camera, or Exif, data; this provides more specific information about a particular shot, and includes everything from the make and model of the camera used through to the exposure and aperture values that the camera was set to. The Camera RAW options will list any changes made to an image if it was run through the Camera RAW plug-in.

EDITING METADATA

Most metadata is locked, although you can edit some elements

As much of the metadata refers to camera settings there's no need to change it, so the ability to edit this is safely locked. However, it is possible to edit the IPTC data, which enables you to associate a description, author and copyright information with your image. Although the IPTC field within the metadata panel may appear to be locked, it is possible to add information here, although this needs to be carried out through a separate process, which we'll consider on the next page. Further information can be added to an open file by selecting the File > File Info option, which includes additional fields covering the file's description, category and origins.



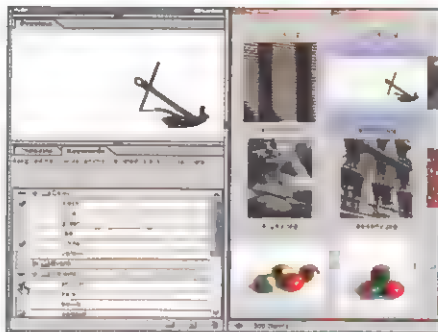
It's possible to associate certain information with your image, such as ownership and copyright details

Setting up keywords

Without keywords your computer won't be able to tell one cluster of pixels from another

Many novice photographers fail to understand the importance of keywords to image management. Using the Keywords tab, found next to the Metadata tab, you can associate descriptive words with your image files to make them more easily identifiable to both you and your computer.

Without keywords, the retrieval of a particular image would involve you browsing through hundreds – and perhaps even thousands – of thumbnails; by using keywords effectively you'll be able to find the



Once you've created your keywords, all you need to do to associate them with an image is check the box by a word with the image selected

right image in seconds. The tips below will help you to structure your keywords in a logical and useful way.



Creating keywords

With the Keywords panel visible, you'll notice three shortcut icons available at its foot. The first icon creates a new keyword set; you can use this for general subject headings such as Colours, Objects or Locations. The second icon can be used to create more specific keywords, and the trashcan icon is used to delete keywords.

CATEGORISING KEYWORDS

ESTABLISH YOUR keywords early, and take the time to consider key categories you may want to include. You don't want to tag 150 images, only to realise that you forgot to include 'Portrait' in there somewhere.

TRY TO THINK of keywords that may define more abstract and related concepts. Big, Red and Bus may work, but adding Transport, Travel and London might make more specific keyword searches possible.

TAKE ADVANTAGE of the ability to group together keywords. You'll soon find that your keyword lists grows almost as big as your image collection, but being able to contract and expand categories relating to a particular image will speed up keyword association.

KEEP THINGS short and simple; niche phrases will only clog up your listings. Think about how hyphenated or truncated words might be presented, and remember: 'flowerpot' isn't the same as 'flower' and 'pot'.



Your first keywords

Knowing where to start when defining your own keywords can be a daunting task, so why not take a tip from the professionals, and see how some online image libraries organise their files? You can find view the categories used by most libraries quite easily, and these should provide a good starting point.

Searching for files

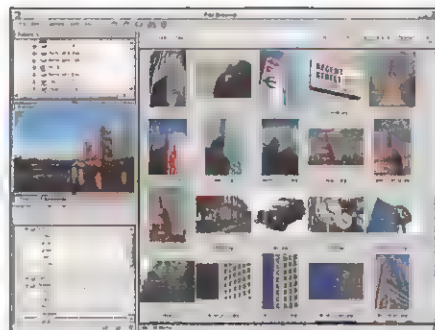
With your images organised effectively you'll be able to find the right photo in no time



Boolean searches

The Boolean search is a standard search method that's used extensively by computer applications. Based on Boolean logic, a mathematical formula developed by George Boole in the 19th Century, the principle uses simple conditions such as AND and OR to retrieve results.

To be able to take full advantage of the File Browser's powerful search capabilities you'll need to be disciplined as you add further images to your collection once you've set up your initial keywords. To carry out a search click on the Search icon at the top of the File Browser interface – it looks like a pair of binoculars – or use the File > Search option. This will bring up the dialog shown below, in which you can specify various criteria. You can add as many criteria as you like; if your keywords are effective, you



A quick search using a single keyword such as London will filter the results so that only relevant images are displayed

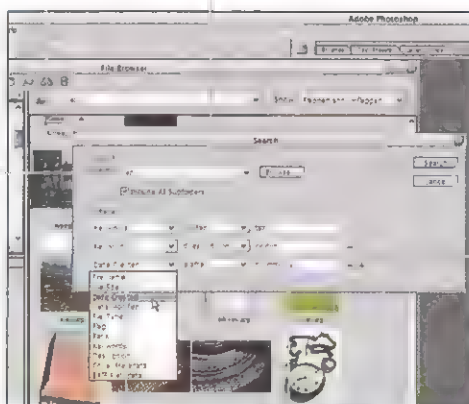
should be able to narrow down your search to just a handful of images, however large your collection.

HOW TO SEARCH

The File Browser's Search facility can be accessed using the appropriate icon at the top of the interface, or by going to File > Search.

You can specify a source folder that your search will be centred around using the drop-down list for recent folders, or by browsing to a specific location.

In the initial criteria field, you can choose from a drop-down list of options such as File Name, Date Created and Keywords.



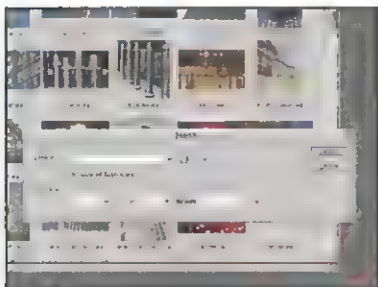
The central limiter option will change depending on your selected criteria, but this is effectively Boolean in nature.

You can add or remove as many criteria as you want using the plus and minus buttons available to the right of each entry.

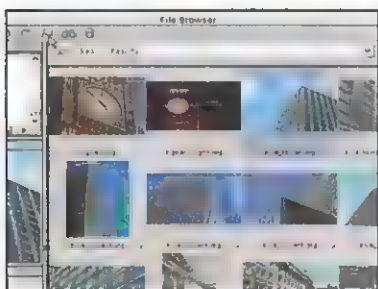
The final condition dictates which words, dates or other data the limiter will return. Any files that meet all the conditions will be displayed when the search is completed.

Refining your searches

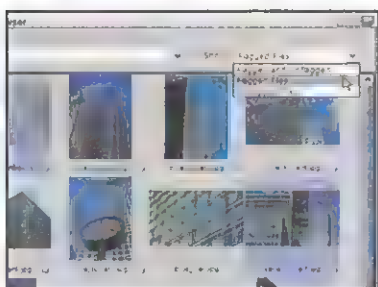
Make finding the right photo even easier by sorting your collection and flagging images



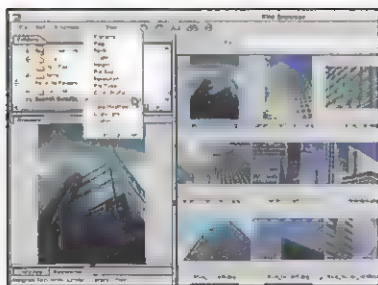
Every image collection will contain different keywords and metadata, so you'll have to adapt the following steps to best suit your own images. The most logical way to start is to run a basic search defining some broad-ranging criteria that will reduce your collection to a more manageable size.



Once you've searched through all the available and relevant keywords you have in place you should have a more relevant collection of images, although some may be more pertinent than others. If this is the case, select the individual images that you want to group and click the Flag icon at the head of the File Browser interface.



If you now choose the Flagged Files option from the Show drop-down list located towards the top-right corner of the File Browser, you'll find that your available images have been further filtered to display only the images that you flagged.



If, on the other hand, you need to reorganise your images in terms of size, age or resolution then you'll need to turn to the File Browser's Sort menu. This offers a range of options that will further help you to locate the images you want.



Flagging multiple files

You can save time by selecting multiple images before clicking the Flag icon; just keep the [Control] key ([Command] on a Mac) held down as you select. If you need to quickly select a large number of grouped images hold down [Shift] before clicking on the first and then the last image in the group.



Building your keywords

The process of running searches and flagging related files will often provide you with new ideas for keywords. For example, our London search resulted in a number of images of Canary Wharf, so we were able to create a Canary Wharf keyword and apply it instantly to all the relevant images, by selecting them and checking the newly created keyword.

The Elements 3 method

The Organizer provides a simplified but equally effective method of managing your files



The bigger picture

Elements doesn't provide the larger preview that Photoshop users enjoy, although you can double-click on a particular image thumbnail to replace the thumbnail view with a sizeable preview. To return to the thumbnail view simply double-click on the enlarged preview.

Photoshop Elements 3 includes numerous enhancements, and one of the key additions to the title is the integration of Adobe's Photo Album software in the form of the Organizer component, which provides more than enough features to help you keep on top of your growing collection of images.

The Organizer has many of the features of the File Browser. Your images are presented as thumbnails, which you can expand, and you can also add your own keywords, and edit metadata and other properties,



When you launch Elements you can choose which component to work in; select the Organizer option if you want to manage your images

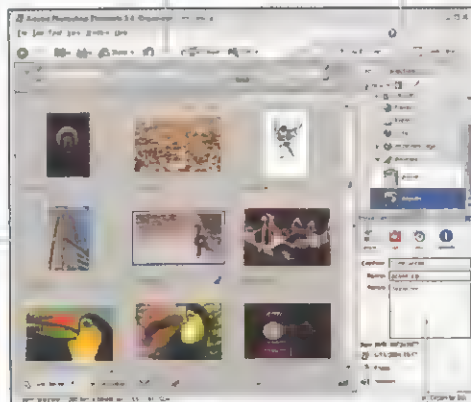
as you begin to create identities for your images that will make filtering and searching your collection easier.

THE ORGANIZER INTERFACE

The head of the interface is occupied by icons that control more general aspects of the software. This includes a timeline, which enables you to view your images in chronological order.

As with Photoshop's File Browser, your images are presented as a series of thumbnail images that dominate the interface.

Towards the bottom of the interface are a range of tools, including those for rotating and sorting images, and for viewing selected photos as a slide show.



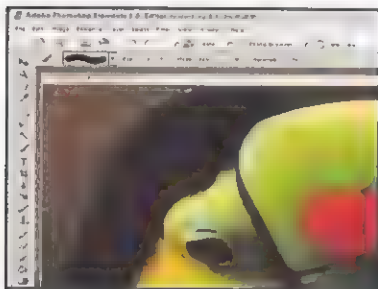
A feature unique to Elements is the Collection tab. This enables you to group together specific images that you may want to view at the same time.


Keywords are available, although they're called tags. They can be created and grouped together using related categories or phrases of your choice.

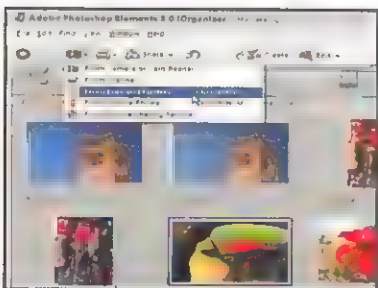
The Properties panel provides access to embedded information that each image contains, including tags, metadata and more general captions and notes.


Working with the Organizer

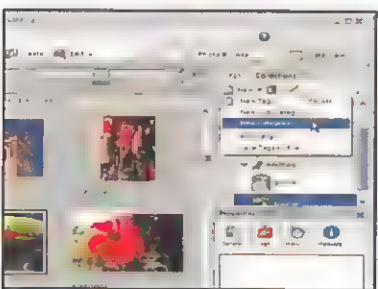
Let's run through the process of managing your images using Elements' dedicated utility




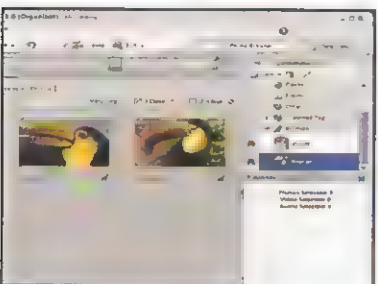
 When you first launch Photoshop Elements 3, you'll be presented with the welcome screen, from where you should choose the View and Organize Photos option to load the Organizer utility. If you've already set the software to bypass the welcome screen, and load in the central Edit mode, you can access the Organizer by clicking on the Photo Browser button at the head of the interface.




 Should you need to import more images use the Camera icon below the main menu. You can introduce images from various sources, such as your camera or scanner, or import ones stored on your hard drive. If you need to remove an image simply highlight it and hit [Delete]; you'll be given the option of whether or not to delete the original file, so be careful if this isn't what you have in mind.



 Once your images have been made available you'll be ready to create your keywords, or tags. The New button at the head of the Tags panel enables you to create groups and keywords, which you can then drag on to the relevant images. You can also amend an image's properties by selecting it and running through the General, Tags, History and Metadata categories.



 With the tags defined, and associated with your images, you can check the currently empty icon to the left of the tag to filter your images. You can select as many tags as you like to broaden or narrow your search, and once you're done you can either uncheck the selected tags or simply hit the Back To All Photos button at the head of the preview area.



Windows only

The Organizer component of Photoshop Elements 3 is a Windows-only application. Mac users will need to turn to the equally capable iPhoto, which offers a similar range of functions and options, to carry out their file management.



Finding your properties

If the Properties panel isn't available then the [Alt]+[Enter] key combination will quickly reveal its location.

Alternatively, you can choose the Properties option by right-clicking on an image, or using the Window > Properties menu option.

Chapter 4

OPTIMISING YOUR DIGITAL PHOTOGRAPHS

In this chapter...

- **Discover** your camera's standard program modes and how to adjust them
- **Discover** your camera's customisable settings and how to adjust them
- **Discover** your camera's customisable settings and how to adjust them
- **Discover** your camera's customisable settings and how to adjust them

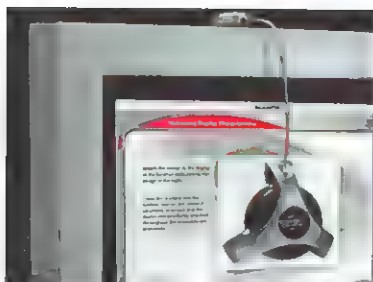
Many novice digital photographers make use of their camera's standard program modes. As these aren't always the most suitable settings, you may need to adjust your images

Thanks to constant improvements in technology, each new generation of digital cameras is able to take better pictures than ever before, and more of them. Given the ease with which these images can be instantly previewed and deleted, and transferred to the computer for viewing, it's not hard to see why digital photography is becoming increasingly popular; however, it doesn't necessarily follow that all people who buy digital cameras are going to be proficient at handling them. The ever-growing user base includes a wide range of experience and ability, and there are a large number of budding snappers who

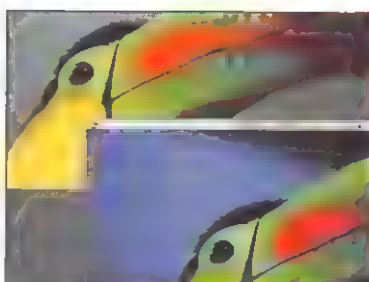
won't know the difference between their f-stop and their aperture.

Preset modes

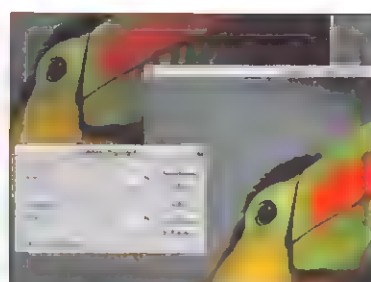
Fortunately, camera manufacturers have been quick to realise this, and have endeavoured to make their cameras foolproof by equipping them with pre-programmed shooting modes that the user can select, depending on the type of photo they want to take and the prevailing conditions. Unfortunately it's impossible for such programmes to get things right every time, and if you don't know how to adjust your camera's manual settings then you will inevitably end up with a few



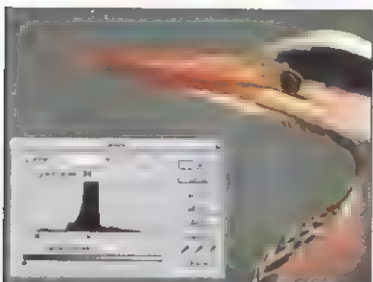
Page 40 It's important to calibrate your monitor before correcting your images



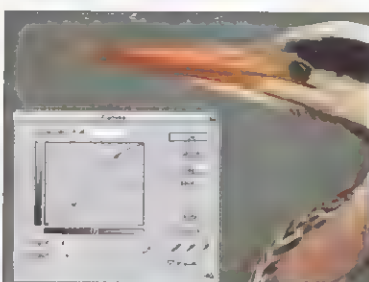
Page 43 Photoshop's Auto tools make adjustments easy for the novice user



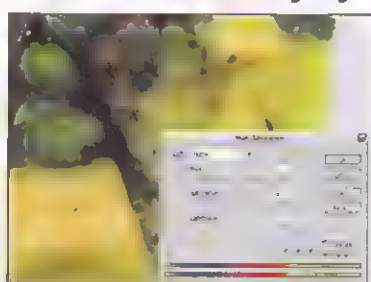
Page 44 Use the Shadow/Highlight command to balance variable lighting



Page 46 Discover how the pros adjust an image's light settings using levels



Page 47 Adjust light and colour balances precisely using curves



Page 48 Enhance colour using the Hue/Saturation command and channels

pictures that don't turn out quite as you'd anticipated. However, all is not lost, as Photoshop enables you to correct the vast majority of problems caused by inappropriate camera settings, using a range of tools and features that will suit the novice and advanced user alike.

Photoshop to the rescue

In this chapter, we'll be looking at some of the most common and effective methods of correcting your images, whether they're photos taken with a digital camera or scanned prints. You should take the time to familiarise yourself with these techniques, as you'll invariably need

to make use of one or more of them at some stage. Even Photoshop has its limitations, though, and some pictures just can't be saved. No end of editing will ever compensate for the effects of camera shake, and, although we can begin to balance overexposed or underexposed shots, such images will be irreparable if bright areas are pure white, or shadows 100% black.

However, before you start adjusting your images you'll need to make sure that your monitor is properly calibrated, as there's little point in correcting the colours you see on screen if they don't match the colours that will be printed.

Calibrating your monitor

The first thing to do is make sure the colours you see on your screen are the right ones

Mac calibration

Mac users will need to use the Display Calibrator Assistant, which can be accessed by going to System Preferences > Displays, selecting the Color tab and hitting the Calibrate button. The basic concept is the same as for the Adobe Gamma utility, with virtually identical options and settings.

Back in Chapter 2, where we looked at ways of importing raw images using Photoshop's Camera RAW plug-in, we made several references to colour profiles. With a typical set-up, you'll find that your camera, monitor and even Photoshop itself use their own profiles for interpreting and rendering colour, so the colours we eventually see are as close to the original colours as possible.

The most important – but also the weakest – link in the set-up is your monitor. It's through this that you'll

be viewing and editing your images prior to exporting them to print, slide show or photo album, and if the colours displayed on your monitor aren't accurate then you'll be in for some nasty surprises later on.

If you're running Windows, Photoshop provides a tool that will enable you to calibrate your monitor – the Adobe Gamma utility. You can choose between an assisted wizard approach and a manual control panel to make the necessary adjustments to your hardware that will enable to see the true colours in your images.

THIRD-PARTY CALIBRATION

You can't always rely on your eyes for perfect calibration

As effective as the Adobe Gamma utility is, it relies solely on the way you perceive colour, and the information you provide, to make changes. This is fine if you're experienced at the task, and know what to look for, but for the most accurate calibration you'll need to invest in some additional kit. Hardware calibrators – or colourimeters to give them their proper title – such as those provided by ColorVision (www.colorvision.ch) enable you to create a much more accurate colour profile. Using such a device you can expect professional level results, and create a monitor profile that faithfully reproduces the colours in your images.

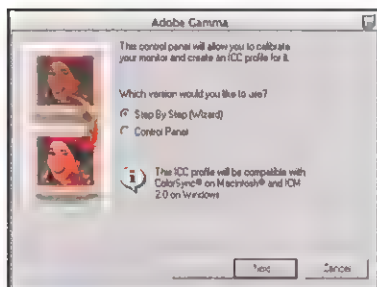


A colourimeter is attached to your monitor, and gauges colour data far more accurately than the human eye

www.colorvision.ch

The Adobe Gamma utility

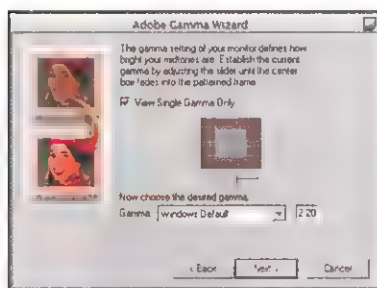
Make sure your monitor is properly calibrated before we look at basic image adjustments



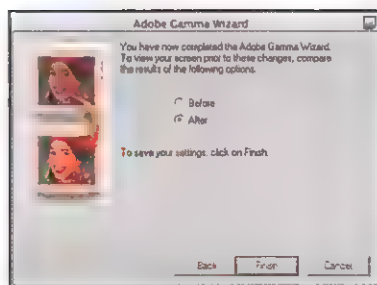
1 When you first launch the Adobe Gamma utility (Control Panel > Adobe Gamma) you'll be asked whether you want to take advantage of the Wizard or use the Control Panel option; choose the Wizard for a simplified approach. At the next screen, you'll be asked to provide a simple description for your profile, before clicking Next to move on to the next step.



2 You now need to make some manual adjustments to your monitor. First, set its contrast settings to their maximum, before adjusting the brightness so that the white border of the box remains a bright white, while the black box is as dark as possible. Click Next again to choose the Phosphors setting your monitor uses; you may need to refer to your monitor's documentation to find this out.



3 The next stage often causes the most confusion, as you need to adjust the slider so that the solid square appears to fade into the patterned frame. To make this a little easier try taking a few steps away from your monitor, so that the textures aren't so apparent. Clicking Next again enables you to specify the hardware white point, which we'd recommend you leave at 6500K.



4 The penultimate stage is to decide whether factors relating to your working environment, such as ambient lighting, should have any effect on the rendered colour. Finally, you can compare your original and adapted settings, before saving your new ICC Profile.



Previewing proofs

Once your monitor is calibrated you can make use of the View > Proof Setup sub-menu to make subtle adjustments to the way Photoshop renders colours. This will help you to get a better indication through your monitor of how an image might appear in print, or of the gamma differences between Mac and PC systems.



ICC Profiles

An ICC Profile is a universal standard, defined by the International Color Consortium, which helps you to achieve consistent colour reproduction between related devices such as your monitor, camera and scanner.

Auto Contrast

Photoshop's automated controls provide fast and effective corrections for the novice user



Limitations

Although the Auto Contrast command can provide some quick and impressive results, it's reliant on your images containing the kind of tone content found in a typical photo. Using the command on flat-colour images will have little or no effect, as Photoshop will be unable to gauge a wide enough range of colour levels.

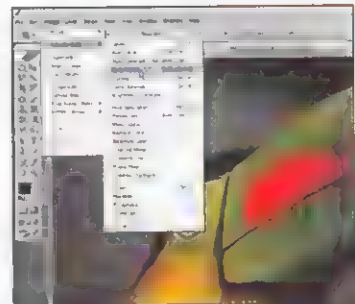
When you first open an image from your digital camera, or a scanned print, it's likely that you'll identify a number of ways in which the shot could be improved, for example by enhancing the colours, balancing light and improving the clarity of the edge detail. Many of the common tools and features of relevance to the photographer can be found under Photoshop's Image > Adjustments sub-menu; these automated features will take much of the guesswork out of the job of enhancing your images.

The Auto Contrast command is one such option and, as its name suggests, it will automatically adjust the overall contrast and mixture of colours in an RGB image. It does this by detecting the extreme light and dark regions of an image, before remapping interim content based on that data; the result is an effective single-click adjustment that balances the image. However, as there's no control over the tool's configuration, more experienced Photoshop users will prefer to make use of the Levels or Curves options.

AUTO COLOR

Transform your images with a one-click colour boost

The Auto Color command offers a quick method of balancing the hue and saturation of an image. After identifying shadows, midtones and highlights, the tool works by neutralising midtones and enhancing extreme shadows and highlights. It's possible to adjust the settings on which the command runs, by clicking the Options button below the regular Levels dialog box, although to do this you'll need to have a good understanding of how levels adjustments work. And, if you're able to make such changes, then you'll probably be making use of some of the more advanced features we'll look at later in this chapter.



The automated controls found under the Image > Adjustments menu provide some useful quick-fix options

Auto Levels

Balance light and dark areas in an image to bring out existing detail and colour

You'll quickly begin to realise how important levels and curves are as you become more proficient at making adjustments to your images. We'll soon be looking into the manual adjustment of levels and curves on pages 46 and 47, but for novice users running the Auto Levels command will give you some idea of the amount of control over your images that levels adjustment can give you.

Like the Auto Contrast and Auto Color commands, the Auto Levels option is another single-click tool,

with no configuration options available. Auto Levels operates by calculating the extreme black and white points of your image, before mapping the channel data of intermediate content to its equivalent point using the 256 greyscale colour model. By making such changes, the Auto Levels adjustment has a much greater effect on your image than the other Auto commands, with both light and colour balances being dramatically improved in a single action, and the adjustment is also less destructive.



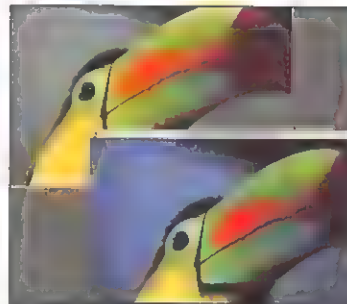
Greyscale colour

The greyscale colour mode contains 256 shades of grey, ranging from pure white (255) to pure black (0). When you use Auto Levels you're instructing Photoshop to find the brightest and darkest regions of your image, which it will automatically map to these extreme points before adapting interim content to its relative greyscale point to boost both the light and colour content of an image.

AUTO CORRECTION LIMITATIONS

The lack of manual control limits the effectiveness of these tools

As impressive as the automated processes are, they're totally dependent on how Photoshop perceives colour data within your images. Photoshop is a powerful tool, but it can't be expected to make intelligent decisions based on the pixel content of an image, and there will be occasions when the automated commands don't achieve the required results. In the case of the Auto Levels option, for example, you may find that if an image contains too many colours based around the shadows, midtones or highlights it's difficult for Photoshop to gauge how the overall levels should be balanced; you can see an example of this on the right.



The Auto Levels command (bottom) has introduced a blue tint; a manual correction preserves the true colours

Shadow/Highlight

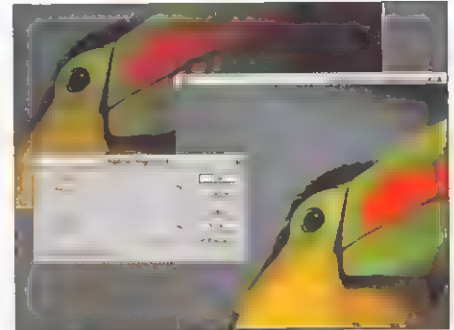
This command can compensate for dominant backlighting, or an overpowering flash fill



Balancing image tone

If you're trying to lighten a dark subject, but find that the midtones or lighter regions are changing too much, try reducing the Shadow Tone Width towards 0; this results in only the darkest regions being lightened. Increasing the value towards 100% will brighten the midtones, as well as the shadows.

The automated methods we've considered produce adequate results if all of an image is affected by a common problem. However, for images that contain a mixture of over- and underexposure, caused by a strong backlight or too powerful a flash, you're better off turning to the Shadow/Highlight command. In its most basic mode, you can make the necessary adjustments to the shadows or highlights of your image using the sliders, although more control is possible if you check the Show More Options box, as you can



Some impressive results are possible using the Shadow/Highlight command, despite the limited configuration options available

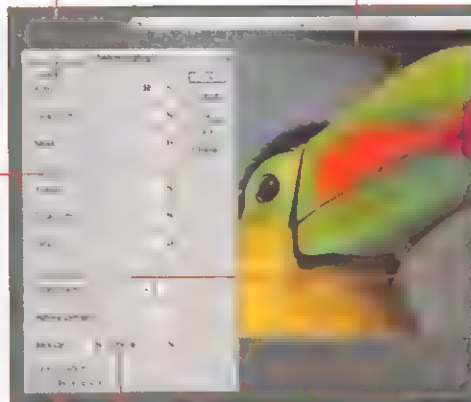
see below. Keep the Preview option checked too, so that you can gauge how your changes affect your image.

ADVANCED SHADOW/HIGHLIGHT CONTROLS

The tool's settings are arranged in three primary groups: Shadows, Highlights and Adjustments.

The Shadows and Highlights options have sliders for the amount of adjustment to be applied; for Tonal Width, which restricts the area affected; and for Radius, which determines the area around each pixel that is taken into account.

Images taken in the same shoot may require similar corrections so saving your settings will make batch-processing such files quicker.



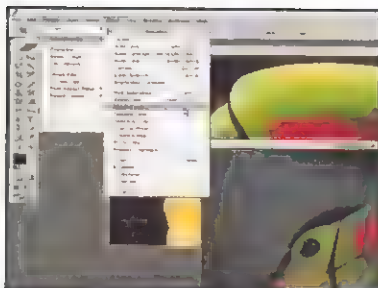
Keep the Preview option checked so that you can see how your adjustments are affecting the image; they will only be applied once you OK the settings.

The Adjustments controls enable you to fine-tune how much colour and midtone contrast is considered when the primary Shadows and Highlights sliders are moved.

Adjusting the Black and White Clip specifies how much of the shadows and highlights will be clipped to the new extreme shadow and highlight colours in an image.

Matching colours

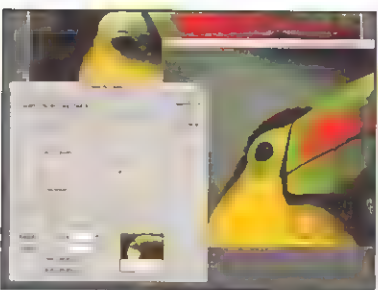
Use the **Match Color** command to adjust one image based on the colour content of another



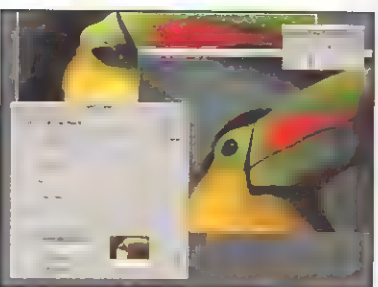
1 Open the toucan1.jpg and toucan2.jpg files from the CD. The second image needs some work to bring out its light and colour content, so we'll make use of the Match Color command. To launch the tool, select the toucan2.jpg, go to the Image > Adjustments menu and select the Match Color option.



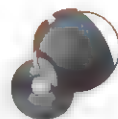
2 In the dialog you're provided with a summary of the selected – or target – file, plus options for how you might adjust it. But before you make any changes to these settings look towards the bottom of the dialog, where you'll see the Image Statistics. From the drop-down Source menu, choose the toucan1.jpg file as the basis for the comparative adjustment.



3 This has an immediate effect on our image, as Photoshop attempts to match the colours and tones from toucan1.jpg, but we can continue to adapt the settings using the Image Options sliders. Select the Neutralize option to remove a colour cast, and move the Luminance slider to affect the brightness in the target image. The Color Intensity slider is used to adjust the colour saturation.



4 You can use the Fade slider to control the amount of adjustment applied to the image; moving the slider to the right reduces the amount of adjustment. To get a more precise idea of how well your colours are matching, move the cursor over the image; you'll see that it does the job of the Eyedropper Tool, providing a precise reading of your image's colour content in the Info palette.



A couple of birds

Use the toucan1.jpg and toucan2.jpg files from the CD to run through the following steps. The first file has already been adjusted, while we'll apply the Match Color command to the second image.



Specifying layers for adjustment

With our example files, we're attempting to match two single-layer images together. However, if you're attempting to match a multi-layered file, you'll be given the option of which layer you want to affect using the Layer drop-down menu contained within the Image Statistics area. Choose the Merged option if you plan to treat the image as a flattened image.

Understanding levels

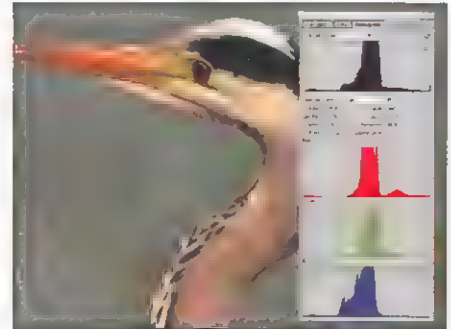
Manual adjustment of an image's levels is a powerful method of correcting light balance



Clipped levels

Although it's preferable for an image's histogram to sit within the boundaries of the preview, there will be occasions when the histogram of overly bright or dark images will extend beyond these limits. In such cases these areas are considered clipped, with extreme areas of the image rendered in either pure black or white; in such cases it becomes impossible to rescue any colour data.

We've made several references to levels adjustments in this chapter, so let's look at what's involved in this process. Unlike the automated methods, the Image > Adjustments > Levels option gives you full control over how an image's white and black points should be defined, plus additional control over where an image's midpoints should be located. The Levels histogram tends to frighten off many novice users who don't quite understand its purpose, but with a little explanation you should be able to modify any



When you understand how an image's levels are defined you'll find the Histogram palette begins to make much more sense

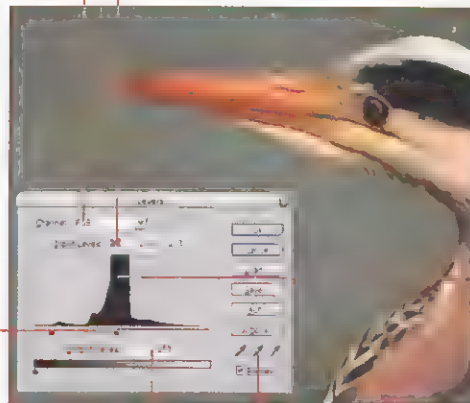
image's levels with ease, and completely transform a photo that you thought was beyond repair.

CONTROLLING LEVELS

You can choose to edit the levels of individual colour channels using the drop-down options at the head of the dialog box.

The black, grey and white Output Levels sliders enable you to drag the shadow, midpoint and highlight levels to contain them within the image's histogram.

As a rule, your Output Levels will remain constant, with settings of 0 and 255, indicating that the greyscale colour range of your image travels from purest black to brightest white.



The Input Levels fields enable you to enter a numerical value for shadows, midpoints and highlights, for more precise adjustment.

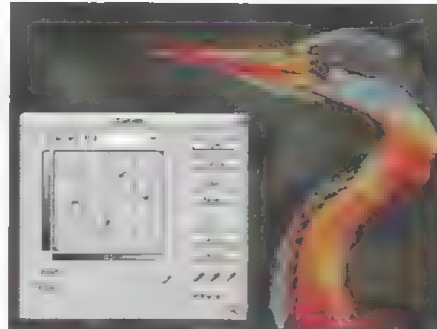
The histogram provides a visual indication of the light content of your image. An histogram contained within the preview area suggests a good range of light content.

If the slider approach isn't satisfactory you can always try the eyedropper approach. The three eyedroppers replicate the levels sliders, so you can click within your image to define values.

Adjusting curves

The Curves command enables you to make even more precise alterations to your images

Operating in a similar way to the Levels command, the Curves command has the advantage of supporting up to 256 different points within an image that you can make adjustments to. Levels are better suited to adjusting the overall light balance in an image, but the Curves command makes more specific adjustments possible. One of the most common curves adjustments you'll make to an image is one that follows the pattern below; we've created a shallow S shape by adding two anchor points, and



Curves enable you to be a little more creative with your output than you can be if you're using Levels alone

dragging them to increase the highlights while retaining the depth of the image's darker regions.



Composite images

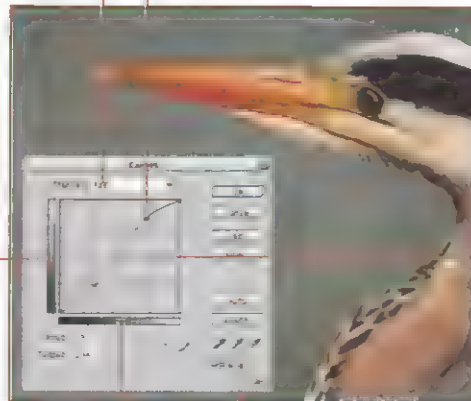
Using both the Levels and Curves commands you can edit individual channels for more precise control of your colour output. However, when an image is viewed normally you'll see a combination of the three channels, which is known as the RGB composite.

MANIPULATING CURVES

As with the Levels command you can make adjustments to individual colour channels, as well as to the composite RGB image.

The horizontal axis of the graph represents the original colour intensity values of your image, while the vertical gradient represents the new colour values.

You can see how the shallow S shape we've created results in the image having increased brightness, while depth is retained in darker areas.



Anchor points can be added by simply clicking on the curve line. These can then be used to drag the curve into different shapes, to adjust the image.

The Curves command gets its name from the graph line that enables you to edit areas of different brightness within your image.

As with the Levels dialog, we can specify shadow, midtones and highlights using the eyedroppers, or we can choose to draw a new curve using the Pencil Tool.

Boosting your colours



Bracketing channels

Adjusting the composite RGB image isn't the most flexible approach, as all colour content is treated equally. By selecting an individual channel, you can bracket colour content by using the sliders to restrict the adjustment to specific regions. You could, for example, expand the red channel, to expand its range on either side of the spectrum further into pinks and yellows.

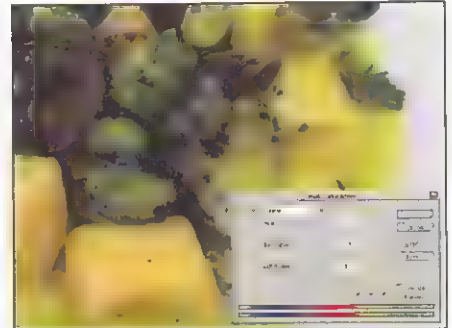


Changing colour

When you adjust individual channel sliders you may find that your selected channel updates automatically. For instance, if you choose Yellow and alter its range so it falls in the red part of the colour bar the name will change to Red 2. Photoshop supports six such ranges within the same channel, ranging from Red through to Red 6 for example.

The Hue/Saturation command can be used for several purposes, and not just on colour images

You'll find yourself regularly turning to the Hue/Saturation command (found under the Image > Adjustments sub-menu) for quick colour adjustments. The settings give you control over an image's colour (Hue), intensity (Saturation) and Lightness through the familiar slider approach. However, when you select an individual channel to work on you'll see how the command gives you more precise control over your colour content; bracketing is introduced, so you can determine the parameters of your colour



As the most basic level the Hue/Saturation command can be used to boost existing colours, to add natural contrast to an image

adjustment. But the tool can do more than apply global colour adjustments to an image, as you'll see below.

PRACTICAL USES OF HUE/SATURATION

- ☐ **ONE OF THE MOST** basic jobs the Hue/Saturation command can do is provide a simple colour boost. Dragging the Saturation slider to the right, while leaving the remaining sliders in their default positions, will usually produce a quick fix.
- ☐ **CHECKING THE COLORIZE** option found towards the bottom-right of the dialog can have some dramatic effects. With the option checked, drag the Hue slider to select a new base colour before adjusting its Saturation and Lightness to achieve the required tone.
- ☐ **USING THIS TECHNIQUE** you can add colour, in the form of a basic sepia tint, to a black and white photograph.
- ☐ **A LITTLE EXPERIMENTATION** with the Hue and Saturation sliders can create some unusual effects. Try reducing Hue and raising Saturation to produce effects synonymous with early colour photography.

Mixing colour channels

For more precise control over colours you need to familiarise yourself with the Channel Mixer

The Channel Mixer command modifies a targeted colour channel using a mix of the existing, or source, colour channels within an image. Like levels and curves, channels use greyscale data to represent the tonal values of the colour components, so with a regular RGB image you'll find red, green and blue channels along with a composite, while a CMYK image will have cyan, magenta, yellow, black and composite channels.

As well as providing more accurate control over an image's

colour content, the Channel Mixer provides some advanced methods of removing colour from your images enabling you to create higher quality greyscale conversions than can be achieved by using the Image > Adjustments > Desaturate option.

For the novice user, the Channel Mixer can be a frustrating tool, but once you've grasped the way colour and channels interact you'll soon discover what a powerful tool it is. The boxout below will help you get started, although a little trial and error is often the best way forward.



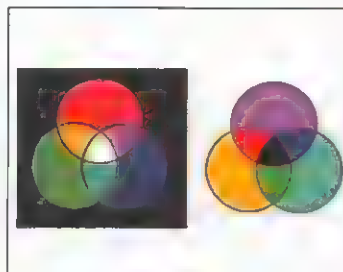
Colour to greyscale

With a reasonable understanding of how the content of individual channels is made up you'll be able to adjust the relevant channels within your image to create more vivid greyscale conversions using the Edit > Calculations option. We'll look into this in more detail on page 67, although for the time being its worth bearing in mind that the green channel will usually hold the most recognisable content.

CHANNELS AND COLOURS

Discover how the Channel Mixer analyses and renders colour

Your monitor renders colour using the additive process, using light sources to create colour in the opposite way to the subtractive process by which inks combine to produce colours. For example, a bright white RGB monitor image will actually be comprised of red, green and blue channels, all containing the maximum amount of colour. If you can remember how these processes work, you'll automatically know that the best way to counter a yellow tint in an image is to saturate the blue channel, for example. The concept is particularly relevant to the Channel Mixer, which enables you to adjust a selected Output Channel in such a way.



In the additive process (left) colours merge to create secondary colours, while the subtractive process works in the opposite way

CONFINING THE EFFECTS OF IMAGE EDITING

Adjustment layers offer a more flexible means of making changes to your images than the regular Image > Adjustments menu, and leave your original image unaffected

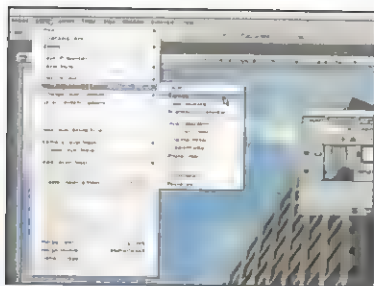
The previous chapter will have impressed upon you how useful the various Image > Adjustments options are when it comes to editing your digital photos. However, while the options available to you are wide-ranging and powerful, there's one distinct disadvantage to using them: each and every adjustment that you make using these commands will permanently alter the pixel content of the base image to which it's applied.

Less is more

In some circumstances, this won't prove to be too much of an issue. For example, if a simple levels

adjustment is all that's necessary to bring out some lost detail in an image, then you'll only be altering that image once. However, were you to modify the image further using the Curves, Hue/Saturation or Channel Mixer commands then you would be making further changes to the pixel data.

To make matters worse, each new adjustment you make as you correct or enhance an image could affect the previous ones, and, ironically, you might end up doing more harm than good. For example, you could easily end up with an image that may appear a little more balanced in terms of light and colour



Page 52 You can choose between two methods of creating adjustment layers



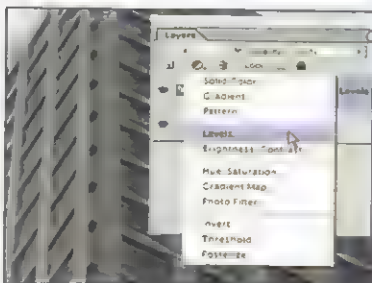
Page 55 Learn how to control masks associated with adjustment layers



Page 56 Limit the effects of adjustment layers by using clipping masks



Page 57 Put your new skills to practical use by following our walkthrough



Page 58 Photoshop Elements features plenty of support for adjustment layers



Page 59 With a little imagination you can completely transform your images

content, but which has suffered in terms of clarity and detail.

Layers to the rescue

Adjustment layers provide a more flexible method of applying common image adjustments by enabling you to apply your changes in a new layer, rather than to the original image layer. And, as adjustment layers contain no pixel data themselves, they can be freely moved around within the stacking order of your image layers, enabling you to apply a more consistent finish to more ambitious, multi-layered projects.

Another big advantage of using adjustment layers is that you can at

any time alter the attributes of a particular layer, so, should your image rely on a number of different effects on separate adjustment layers, you can easily edit each layer in turn to fine-tune your settings, before settling on the best possible combination – and still without any changes being made to your original image layers.

There are some limitations and considerations that you'll need to bear in mind when you're working with adjustment layers, but there are many more pros than cons, and, over the course of this chapter, you'll come to fully appreciate just how versatile they can be.

Creating adjustment layers

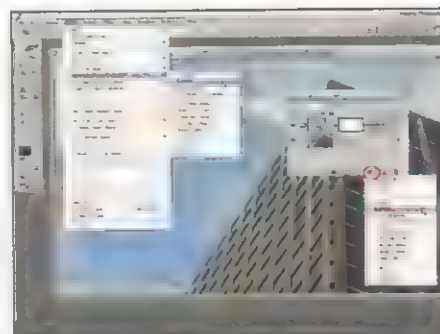
You can create adjustment layers using the Layer menu, or through the Layers palette



Linked masks

Masks are used to confine the parts of an image to which an adjustment layer is applied. By default a mask is filled with white, which indicates that the adjustment affects the entire underlying layer, but by selecting the mask and adding black areas you can prevent the adjustment layer affecting the corresponding areas.

Should you want to create an adjustment layer your first instinct would probably be to head for the Layer menu, and, sure enough, you'll find the New Adjustment Layer command there. When you've selected the adjustment layer type, and OKed your settings in the dialog box, thumbnails representing the new adjustment layer and its associated mask will appear at the top of the Layers palette. However, you may find that clicking the Create new fill or adjustment layer shortcut icon found at the foot of the Layers



As with many other commands in Photoshop, you have a choice as to how you create a new adjustment layer

palette (a half-black, half-white circle) is more convenient, and marginally quicker.



Layer visibility

It's possible to hide or reveal adjustment layers using the Layers palette. To the left of each layer is an icon that looks like an eye; this indicates whether or not a layer is visible. Click on this to hide the icon, and the related adjustment layer.

USING ADJUSTMENT LAYERS

ONCE YOU'VE created an adjustment layer, a dialog box will appear in which you can specify various settings for the chosen adjustment. This is identical to the dialog box you'd see if you applied the same adjustment using the Image > Adjustments sub-menu.

YOUR SETTINGS are saved within the adjustment layer itself, so if you need to fine-tune the adjustment later, double-click on the layer thumbnail or access the Layer > Layer Content Options menu, to call up the dialog box again.

YOU CAN CREATE as many adjustment layers as you like, and you can rearrange their stacking order, or temporarily hide specific layers.

ADJUSTMENT LAYERS will remain independent of the original image, but should you flatten adjustment layers or merge them with an image layer the changes will become permanent.

Adjustment layer limitations

While adjustment layers are a powerful tool, there are some restrictions on their use

With so many advantages to using adjustment layers, you may be wondering why you would ever need to use the options found under the Image > Adjustments menu. As you become familiar with adjustment layers you'll certainly find yourself turning to them more and more, but there are limitations to their use, principally due to the fact that they're independent of the layer you want to affect. We've highlighted a number of issues that you should consider when working with adjustment layers, although



Here, the Invert adjustment layer at the head of the stacking order has inverted not only the text colour, but also the colour of the image

we'll be looking at ways of working round some of these limitations over the following pages.



Variable adjustments

The use of masks for controlling an underlying image layer's content may dissuade some less experienced Photoshoppers from exploring adjustment layers. However, once you've grasped the concept you'll find that a number of advanced adjustments become possible; for example, you can apply varying levels of adjustment using masks that have different opacity and transparency settings.



Changing adjustments

The Layer menu enables you to change the adjustment contained within an existing layer by selecting the Change Layer Content option. This will save you a few mouse clicks, as you won't have to delete an unwanted layer before creating and reconfiguring another.

THINGS TO CONSIDER

AN ADJUSTMENT LAYER will by default affect all the layers that fall beneath it. You can get prevent this by creating a clipping mask, a process that we'll look at on pages 56 and 57.

AS MASKS DICTATE which parts of underlying layers are affected by adjustment layers, you'll need to be familiar with the way in which masks work. Just remember that applying black to a mask will reveal areas of the original image, while applying white will hide them again.

THE STACKING ORDER of adjustment layers can have a dramatic effect on your image. You'll need to remember that the stacking order influences the way in which adjustments are applied, and you can easily reorder the stack to suit your purposes.

NOT ALL Image > Adjustments options are available as adjustment layers. Turn the page to see what is, and, more crucially, isn't available.

Available adjustments

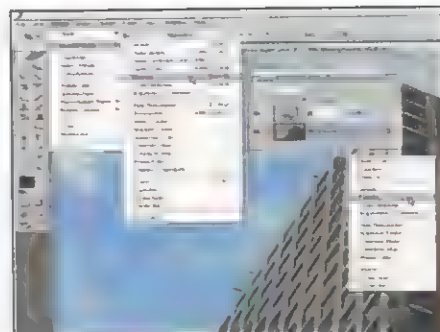
Not every option from the Image > Adjustments menu can be applied as an adjustment layer



Applying other adjustments

With adjustments such as Match Color and Shadow/Highlight unavailable as adjustment layers, you may choose to apply them to a duplicate layer before creating further adjustment layers. This way you'll be able to see how the combination of effects works, without losing the ability to revert to your original image.

Both the Layer menu and the Layers palette shortcut enable you to create an identical range of adjustment layers, although if you compare those that are available with those that are listed under the Image > Adjustments sub-menu you'll find a number of options are missing. All the main adjustments are available to you, including the Levels and Curves commands, but the automated options, such as Auto Contrast and Auto Color, are omitted. Commands such as Shadow/Highlight and Match Color



Here you can see the options that are available under the Image > Adjustments menu, and those that are available as adjustment layers

are also absent, due to the fact that such options apply their adjustments to a defined image or layer.



Fill layers

The adjustment layer shortcut icon at the foot of the Layers palette also enables you to create Solid Color, Gradient and Pattern layers. These are known as fill layers, and are loosely related to the adjustment variety due to the fact that their content is controlled by a linked mask.

WHAT'S IN AND WHAT'S OUT

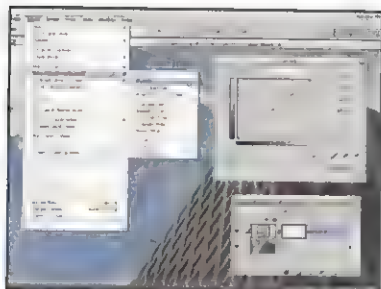
THE ADJUSTMENT LAYER options are split into groups, with the Levels, Curves, Color Balance and Brightness/Contrast options taking care of light issues. The related automated controls, such as Auto Color, are not available, as these are single-click actions that can only be applied to an entire image.

A COMPREHENSIVE range of colour correction functions are available, including the Hue/Saturation, Selective Color and Channel Mixer options, along with the Gradient Map and Photo Filter effects. However, the Desaturate, Match Color and Shadow/Highlight commands can only be accessed through the Image > Adjustments menu.

INVERT, THRESHOLD AND POSTERIZE provide additional options that correspond to those available through the Image > Adjustments menu, although the Equalize function is omitted.

Applying adjustment layers

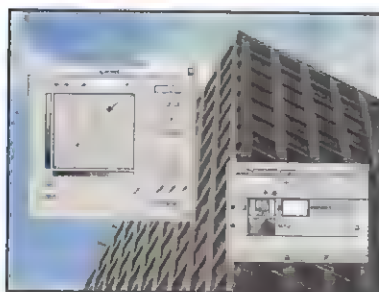
Follow our walkthrough as we put the theory behind adjustment layers into practice



Open the skyscraper.jpg file from the CD. You'll see that the image is a little on the dark side; to balance this we'll make use of the Curves command, but, rather than going to the Image > Adjustments menu, choose the Layer > New Adjustment Layer > Curves option to prompt the dialog box.



Skyscraper.jpg
Use the skyscraper.jpg file on the CD to run through these steps as you get to grips with how adjustment layers are created and configured.



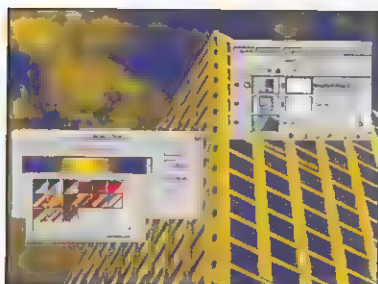
The new adjustment layer will appear in the Layers palette, denoted by icons that represent the Curves graph and its linked mask. The Curves dialog is the same as the one that would be prompted by the Image > Adjustments menu option, so you can go about making the necessary adjustments; a simple shallow S shape should lighten the image, while retaining the depth of the shadows.



Once you're happy with the adjustment, OK the settings to return to your image. To see how you can influence the adjustment using the mask, fill a section of the layer with black to reveal areas of the original image.



Filling masks
If you end up with black areas over your image when you're filling your mask then you've selected the image layer, rather than the linked mask. Undo the action, click on the layer mask and try again – you shouldn't actually see the black on your image.



You can now add additional adjustment layers to apply further adjustments as you experiment with the feature. Don't forget that you can revise your adjustment layer settings at any time by double-clicking on the layer's icon to invoke the relevant dialog box.

Restricting adjustment layers

By default an adjustment layer affects all image layers beneath it, but this can be prevented



Clipping images

The clipping concept isn't restricted to adjustment layers. You can clip one image layer on to another, using the base layer to define the area of the second layer that should be displayed. You'll see this process in action on the next page, as we apply a texture to some text.

You won't have many problems using adjustment layers if you're working with single-layer images. However, when it comes to more complex, multi-layered projects you'll soon discover how adjustment layers influence every image layer that falls beneath them. On some occasions this can be a benefit, as you can apply a single adjustment that has a consistent effect on an entire image, but on other occasions it may prove problematic.

If you're lucky you may find that a little reorganisation of the layer

stack will counter any unwanted effects introduced by an adjustment layer, but doing this will limit your options as to whether or not particular adjustments should affect any new elements as you continue to develop your layout. A much more effective method of restricting the effects of an adjustment layer is to make use of clipping masks. Once an adjustment is clipped to an image layer you'll find that the adjustment will only affect that image layer, and won't have any influence on other layers in the stack.

CREATING CLIPPING MASKS

Restrict the effects of an adjustment layer

If you have a single image layer with an adjustment layer stacked above it, creating a clipping mask is straightforward. The process is always instigated from the upper layer, so you'll need to select the adjustment layer before selecting the **Layer > Create Clipping Mask** option. A quicker method is to hold down the [Alt] ([Option]) key while hovering the mouse between the two layers. The cursor will change to a linking symbol, and a click will create the clipping layer. The clipped layer will become indented in the Layers palette, and its relationship with the image layer will be indicated by the drop arrow to the left of the layer thumbnail.



Hold down [Alt] ([Option]) with the cursor between the relevant layers to quickly create a clipping mask

Using clipping masks

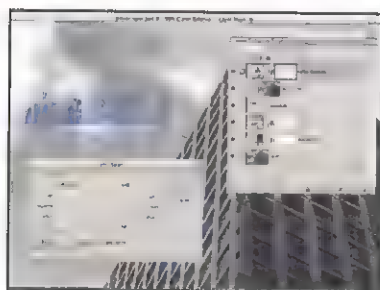
A little practise will help you to appreciate how clipping masks can bring flexibility to your work



Open the greyscraper.psd file; you'll see that we've used adjustment layers to raise the image's curves and apply a gradient map that creates a greyscale effect. We're going to add text that displays the original colour of the saturated image, so begin by adding some text using a large bold font. Rasterise the text layer, and position it at the head of the stack.



The next step is to duplicate the Background layer, which you can do by highlighting the layer and choosing Duplicate Layer from the Layer menu. Position the duplicate above the image layer containing the text; as the duplicate layer contains imagery that covers the entire canvas, the underlying layers will be obscured from view.



Keep the upper layer selected and choose Layer > Create Clipping Mask; you'll see how this results in the text layer defining the area of the duplicated background that's visible. Move the text around and you'll see how the background remains in place. However, the colours could be more vivid, so create a Color Balance adjustment layer at the head of the stack, and increase the blue slider.



This has the effect of exaggerating the blue within the text layer, but as the adjustment layer needs to be positioned at the head of our layer stack, the colour change has affected the rest of the image as well. To counter this, select the Color Balance adjustment layer and use the Layer > Create Clipping Mask option again, to restrict the enhanced colour to the text layer.



Greyscraper.psd

Use the greyscraper.psd file from the CD to work through the following steps. This is a variation on the skyscraper image we've already used with the addition of a couple of adjustment layers, in the form of a curves adjustment and a black-to-white gradient map that creates a greyscale image.



Clipping layer sets

It's not possible to add clipping masks to layer sets, although adjustment layers will treat them as a single layer. In other words, if an adjustment layer is positioned above a layer set, it will still affect all underlying layers, including those within the set. However, should you need to clip further adjustments to those contained within a set you'll need to create them inside the folder.

Adjustment layers in Elements

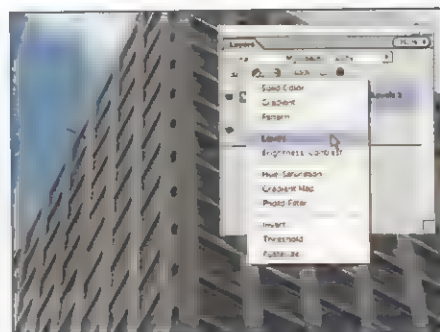
The principle is the same as in Photoshop, but there are a few things to bear in mind



The Enhance menu

Throughout this chapter we've made regular references to Photoshop's *Image > Adjustments* sub-menu. Elements doesn't have the same adjustment options under the *Image* menu, but you'll find most of the equivalent options under the *Enhance* menu.

Most of what we've covered in relation to adjustment layers in Photoshop is also applicable to Elements 3. The concept is exactly the same, although there are a few slight interface variations in the case of the Layers palette, and despite the lack of support in Elements for regular image layer masks you'll find full support for clipping masks linked to adjustment layers. However, there are a few limitations. For example, *Curves* and *Color Balance* are unavailable, as are the *Selective Color* and *Channel Mixer* options,



Compared with Photoshop, Elements is slightly restricted in the number of adjustments options that are available

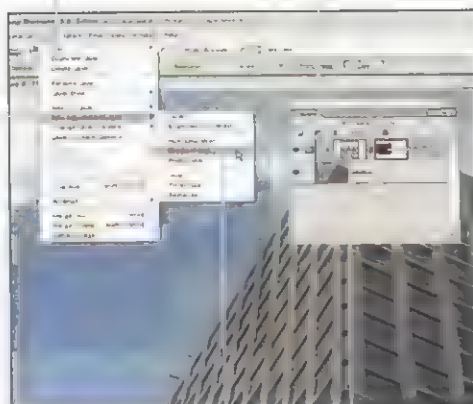
although as these aren't available under the *Enhance* menu Elements users are unlikely to miss them.

RECOGNISING ADJUSTMENT LAYERS IN ELEMENTS

As with Photoshop itself, Elements has a dedicated *Layer* menu from where you can control all aspects of your layer-based content.

Similar options are available for adjustment layers, including controls for creating, editing and converting them.

The available options are somewhat limited compared with Photoshop, although you can compensate for the lack of more advanced features by adapting those that are available.



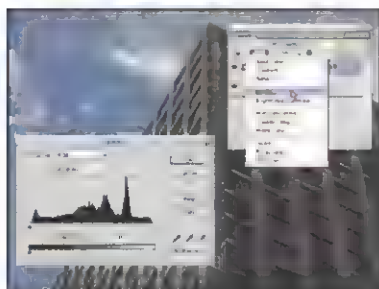
Adjustment layers can also be created through the *Layers* palette shortcut icons, which are contained towards the head of the palette.

The adjustment layers themselves are represented in exactly the same way as they are in Photoshop, through a thumbnail icon and a related mask icon.

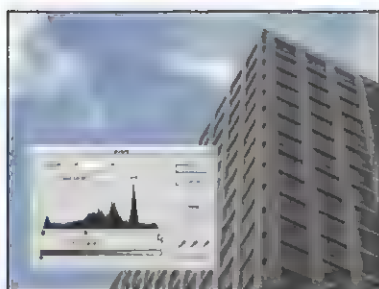
Even clipping masks are available to Elements users; they're indicated, as in Photoshop, by being indented in the *Layers* palette.

Elements alternatives

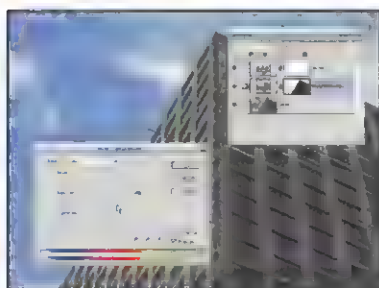
Let's look at another way of working with adjustment layers, this time in Elements



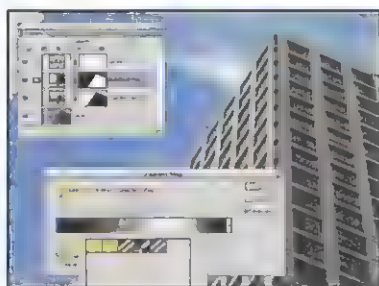
Start by opening the skyscraper.jpg file, and brightening the image. In the absence of a Curves option, we can turn to the Levels command, but, rather than creating the adjustment layer through the Layer menu, turn instead to the adjustment layer shortcut, which is represented by the same circle icon as in Photoshop. Choose the Levels option to prompt the dialog box.



Despite being on the dark side the original image is well contained within the histogram, although we can drag the Shadow and Highlight sliders in a little to meet the edges of the graph, while moving the Midpoint slider to the left a little will help to brighten the image. Alternatively, you could try using the eyedropper tools to pick out sample shadows, midpoints or highlights.



To exaggerate the colour in the sky, we could apply another adjustment layer, but this would affect the entire image, so we'll select the sky area, and, with the selection active, create a Hue/Saturation adjustment layer. The selection influences the associated mask by hiding the building, so when we increase the saturation the sky colour is boosted, while the building is unaffected.



Reselect the sky and choose Select > Inverse, so the building is selected. Create a Gradient Map adjustment layer; again, you'll see how the mask changes to reflect your selection, and we can now use a predefined gradient map to influence the appearance of the building. Don't worry if an effect looks too strong, as you can counter this by reducing the opacity of the adjustment layer.



Skyscraper.jpg

Use the same skyscraper.jpg image to go through the following steps; just remember to revert to the original file if you've made changes to it over the previous pages, as we want to start out with the original image.



Selections in Elements

Photoshop Elements features many of the core selection tools available to Photoshop, as well as a number of tools unique to the software; the Selection Brush Tool provides a more direct method of creating complex selections, by enabling you to simply paint on to the image. However, in the case of our skyscraper image, with its contrasting colours, we can make the selection fairly easily using the Magic Wand, holding down the [Shift] key to add areas to the selection.

Chapter 6

RETOUCHING AND ENHANCING YOUR PHOTOS

In this chapter...

- ☐ Learn how to eliminate red-eye
- ☐ Add a sepia tint to an image
- ☐ Remove spots and scratches from photos
- ☐ Create effective black and white conversions
- ☐ Fake depth of field in a photograph

Photoshop comes into its own when you need to remove blemishes from otherwise good photos, but there's more to retouching your images than just removing a few spots...

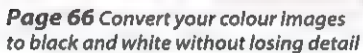
The techniques we've covered in previous chapters will help you to improve the overall colour and lighting in your photos, but they're not much use if you want to remove unwanted elements from images, whether these are blemishes on the subject itself or artifacts that have been introduced by the photographic process, such as red-eye, perspective distortion or scratches on film.

Photoshop has a powerful array of tools and features for correcting such flaws. The Healing Brush, Patch and Clone Stamp tools can be used independently or in combination to remove entire objects from your compositions, or just to clean up the

odd blemish. The following pages will give you an overview of some of the common problems that you'll encounter, and show you how to deal with them; the techniques that you'll learn can be adapted to tackle a variety of problems.

Colour to mono

Photoshop can, of course, be used to enhance images that are already perfectly acceptable. You can, for example, convert your images from colour into black and white to draw attention to the composition's contrast; while this can be achieved by running the Desaturate command, there are alternative methods that will



As you'll discover when you start to experiment with your own photos, there are a seemingly infinite number of ways in which you can enhance images. We've kept our focus on some of the primary retouching techniques, and you can adapt or combine these to get the best results with your own images, but you should also check out magazines such as *Digital Camera Magazine* or *Digital Photo Effects*, which feature many other methods of manipulating your photos.

Correcting redeye

Tackle the bane of flash photography, and give your subjects a more human appearance



Discontiguous

With the Discontiguous Limits option checked, Photoshop will recognise similar colours to those sampled that may fall outside the main redeye region. With Contiguous selected, any stray flecks of discolouration will remain unchanged, and this can give your subject's eyes a bloodshot appearance.

Redeye is a familiar problem in photographs in which the subject is staring directly into the camera lens when a flash is used, and has spoiled many a snapshot. In earlier versions of Photoshop, the only way to correct redeye was manually, using blended layers to counter the red appearance while preserving any detail contained within the pupil. However, the task has been made a great deal easier with the introduction of the Color Replacement Tool. The tool is grouped with the Healing Brush and

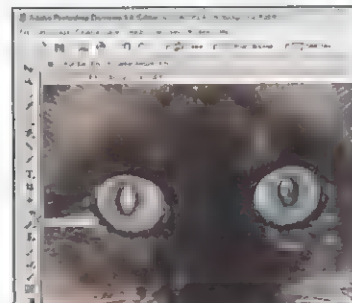
Patch tools in the toolbar, and offers an effective method of rectifying a common but tricky problem.

To use the Color Replacement Tool, you'll need to zoom in on your subject's eyes, and select a brush tip that fits within the affected area. In the tool options bar set Mode to Color, Sampling to Once and Limits to Discontiguous, and specify a low Tolerance setting of around 30%. You can now choose a suitable replacement eye colour from the Swatches palette, before painting over the problem area.

REMOVING REDEYE IN ELEMENTS

The dedicated Red Eye Removal Tool offers a one-click solution

Photoshop Elements has its own dedicated tool for correcting redeye. The Red Eye Removal Tool is simpler to use than the Color Replacement Tool, as the only configuration necessary is for Pupil Size and Darken Amount, and the default 50% settings for each will generally give satisfactory results. You can apply the tool by clicking directly on the affected area, or by dragging a selection around the region; the two methods tend to produce different results depending on the severity of the redeye, so make use of the Undo option and try both methods. You may find that increasing the Darken Amount will help to counter more dominant red discolouration.



Elements' Red Eye Removal Tool can achieve very noticeable results with a minimum of configuration

The Healing Brush

Remove spots and blemishes from images using the Healing Brush and related Patch Tool

There's little that even the best photographer can do about a physical blemish on a subject. The camera will record everything that it sees, so if, for example, a model has a spot on the end of her nose, there's not a lot that you can do about it – until you open the image in Photoshop of course.

The Healing Brush Tool was created specifically for the task; it was introduced in Photoshop 7, and it has recently found its way into Elements 3 as the Spot Healing Brush. In the Photoshop version a

number of settings are configurable in the options bar, and you use the tool by sampling a clear skin tone area while holding down the [Alt] (Windows) or [Option] (Mac) key before clicking on the offending area; the pixels will be replaced by those from the sampled area to seamlessly remove the blemish. Elements uses the same principle, although no initial sampling is necessary, as the software will analyse the area surrounding the blemish, and use these pixels to replace the problem ones.



Not just spots...

Don't feel you're restricted to working with skin tones when using the Healing Brush and Patch tools. They can be equally effective at removing scratches or creases from your images and, to a point, at removing larger objects, although such jobs might be better tackled using the Clone Stamp Tool, which we'll look at on the next page.

THE PATCH TOOL

The Patch Tool is better suited to tackling larger blemishes

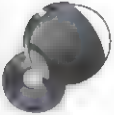
The Healing Brush is a powerful tool, but it's best suited to small blemishes that can be covered with a single click using a suitably sized brush. Larger scratches or irregularly-shaped scars are a tougher proposition, and in such cases the Patch Tool will generally be your weapon of choice. If you set the tool to Destination you can select 'good' pixels, and drag them on to the area you want to repair; if you set the tool to Source you'll need to select the area you want to repair, then drag the selection on to the area you want to sample. Elements has no equivalent tool, although the Healing Brush or Clone Stamp tools will still be of some use.



Once you've mastered the Healing Brush and Patch tools, some impressive results can be achieved

Using the Clone Stamp

Remove unwanted elements from photos by sampling detail from elsewhere in the image



Gaudi.jpg

Use the *gaudi.jpg* file from the CD to follow this walkthrough. This image of one of the buildings that gates Parc Guell in Barcelona is marred by a few people that have strayed into the bottom-left corner of the shot.



Open *gaudi.jpg*, and take a look at the bottom-left of the picture; you'll notice a couple of stray heads appearing in the shot. As well as removing these it would be helpful if we could extract the character in the blue shirt who's walking in front of the building. Zoom in on the area, and select the Clone Stamp Tool from the toolbar.

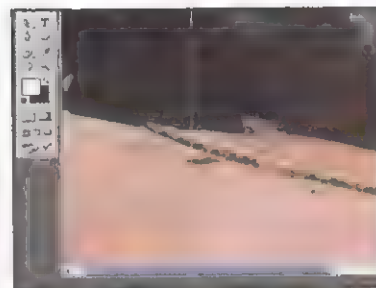


Removing the stray heads is relatively straightforward. Set the brush size to around 20 pixels and [Alt]+click ([Option]+click on a Mac) a little above the woman's head. Now paint horizontal strokes over her head; you'll see how Photoshop uses your original sample point to replace the pixel content. Repeat the process for the man's head, sampling from the right and painting vertical strokes.



Mastering the Clone Stamp

To get the most from your cloning, you'll need to be patient as you constantly sample pixels, and zoom in on areas of detail where there's little room for applying the brush. You may also need to change the brush size regularly to get the best results.



The man in the blue shirt will require a bit more work, although we can start by using the techniques employed above. Concentrate first on parts of his body that fall over areas that are easy to replace, such as the lower and upper parts of his legs and his torso, but ignore any parts such as his knees and waist, as these fall over more complex background areas.



The remaining parts of the man fall over areas that require some rebuilding. To do this successfully, you'll need to adjust the brush size accordingly, and choose your sample points carefully. For example, to recreate the kerb covered by the man's knees, sample a little to the right and then paint over the knee area with brush strokes that follow the direction of the kerb.

Black and white conversions

There's more to making your colour images greyscale than simply desaturating the colours

Many digital cameras enable you to take black and white photos, but most photographers will never use the option, as it's much easier to remove colour data from an image than to add it. However, the task of converting an image from colour to black and white effectively is a great deal more complex than using the Image > Adjustments > Desaturate command.

Using the Image > Calculations option to change information held within individual colour channels will often make for a much stronger

conversion, and even the application of a black-to-white Gradient Mask can enhance the tones in a photo, as long as the image's levels have been suitably adjusted.

The importance of specifying the correct levels settings can't be emphasised enough, as this will determine which regions of your image define the white and black points. If the settings aren't correct, you'll find that your images are heavily influenced with murky midtones, and lack definition between the more extreme regions.



Greyscale

Although we generally refer to non-colour photos as black and white, the content is actually greyscale. This means that the image contains a range of tones that incorporate 256 levels of grey, from pure black to pure white.

USING THE THRESHOLD COMMAND

Create high-contrast black and white images

A black and white image contains few pure black or white regions, with various shades of grey indicating tonal variation. Should you want to convert your images to pure black and white you'll need to turn to the Threshold option. Available either through the Image > Adjustments menu, or as an adjustment layer, the command strips colour from your image and suggests tone by dithering (speckling black and white pixels) to create the most contrasting image possible. Such conversions might be used to exaggerate the contrast of an original image through blending modes, or to create artwork for a format that only supports two colours.



The Threshold command creates extreme-contrast images that are suitable for use with blending modes

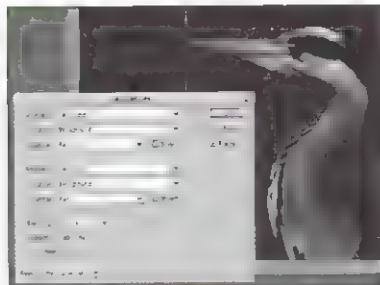
Greyscale through Calculations

Optimise your conversion by comparing and calculating colour channel information

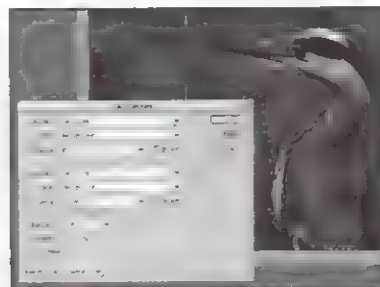


Heron.jpg

You can use your own image to follow this tutorial, or use the heron.jpg file from the CD. If you use your own image, try to find one that has clear contrast between the subject and the background.



1 Open the heron.jpg file, or your own image, and choose Image > Calculations to bring up the dialog. Don't worry if things don't look too impressive to start off with; we'll soon find the best balance as we compare available channels within our image using the Source 1 and Source 2 fields in the settings. Make sure the Preview option is checked, so you can see how the conversion is going.

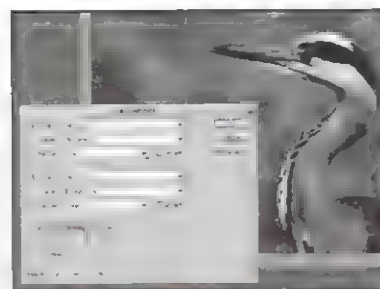


2 The advantage of using the Calculations method becomes apparent once you begin comparing channels. As our image comprises a single layer you can ignore the Source and Layer options, and concentrate on comparing Channels. Experiment with a few combinations if you like; we settled on the Blue channel for Source 1 and the Green channel for Source 2.



Tune-in your channels

As a rule, the Green channel within an RGB image will tend to contain the most amount of detail that the human eye can distinguish, while the Red channel will have the least. The Blue channel contains much of the contrast of an image, so choosing the Green and Blue channels will generally result in the most effective conversion.



3 You may still be waiting to be convinced of how flexible the method can be, but any doubts will soon be dispelled as you dabble with the Blending Mode and Opacity options located towards the foot of the dialog. For example, the Overlay blending mode creates a much brighter and more contrasting conversion, while Multiply increases the intensity of the effect.



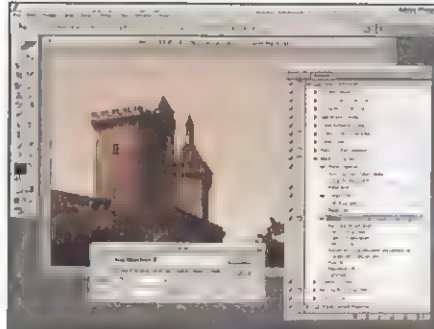
4 Once you're happy with your results, choose an appropriate option from the Result drop-down – New Document is probably the safest – and click the OK button. Photoshop will then process the file, and either create a new file or add the data to a new channel, which you may want to use further adapt your original colour image.

Sepia-tinting greyscale images

Give your black and white images an air of nostalgia by faking the look of an old print

Black and white photographs often develop a warm sepia tint as they age, and recreating this effect has become a popular method of adding an 'antique' finish to a photo, or faking the signs of ageing. Before the days of Photoshop, such a task would have required the use of chemicals.

There are various methods of emulating a sepia tint in Photoshop, as you'll discover below, but bear in mind that you'll need to work with a black and white image. Also choose a photo that's sympathetic to the



Running an image through the Sepia Toning action will apply a quick sepia tint, although the Channel Mixer gives you more precise control

finish, such as a portrait; there's no point in applying a sepia tint to an obviously contemporary subject.



Ageing your pictures

Applying a sepia tint is only the first phase of ageing a photograph. For the most authentic results you'll also need to consider faking scratches, rips and tears, as well as some fading and maybe some ragged edges.

EMULATING SEPIA

- **FOR THE ULTIMATE CONTROL** over the application of a sepia tint, the professionals will turn to the colour channels. You can use the Channel Mixer to make precise adjustments to the individual channels.
- **FOR A QUICK** alternative, you could make use of the Sepia Toning action. This can be found under the Default Actions, and produces results similar to creating a duplicate of your original image using the Colorize option contained within the Hue/Saturation adjustment.
- **ANOTHER APPROACH** is to make use of Photoshop's filters; the Conté Crayon option includes the ability to apply a sepia finish to your image. Similarly, you could also create a Sepia Photo Filter adjustment layer.
- **ANOTHER METHOD** is to select Image > Adjustments > Variations (in Elements, Enhance > Adjust Color > Color Variations), and increase the red midtones and decrease the blue midtones.



Tweaking your Actions

When converting your images using the Actions palette, you'll find that you have little control over the final conversion, but if you check the option by the Make step to toggle the dialog on and off, you'll find that the dialog boxes for subsequent stages will be displayed, so you can fine-tune the process.

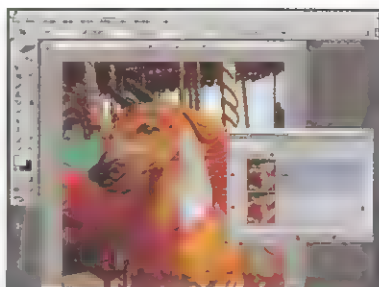
Faking focal length

Focus on a subject by blurring background detail to emulate a shallower depth of field

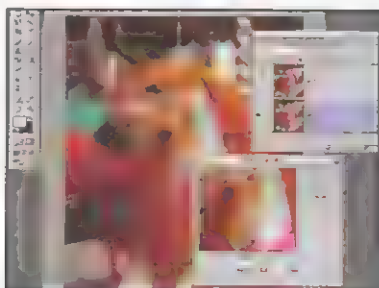


Horse.jpg

Use the horse.jpg file to complete the steps on this page. The background detail in the image is as sharp as that in the foreground, but we want to make the carousel horse stand out.



Open the horse.jpg file; you'll see that the background is as sharp as the horse that is the main subject, making it difficult for the eye to settle on the horse. To counter this, we'll create a depth of field effect by blurring the background detail so that the horse stands out. Start by duplicating the background layer.

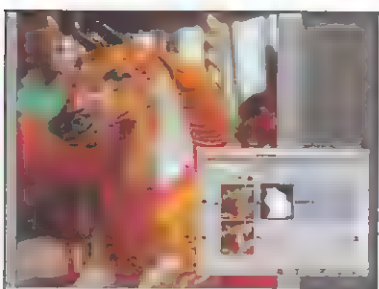


Hide the top, duplicate layer to reveal the original image, and apply the Gaussian Blur filter with a setting of around 5 pixels. You could choose to increase this figure if you want, to create the effect of a tighter focal length, but for our purposes 5 pixels creates a realistic depth of field.

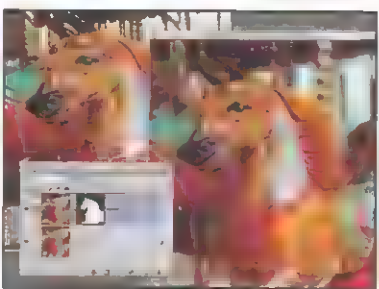


Graduating depth of field

Using masks to control the blurred region has the additional benefit of allowing a more complex depth of field to be created. Instead of simply painting black on to the mask, try applying a black to white gradient to give a more realistic depth of field, as the transition between sharp and blurred regions will vary depending on the gradient content.



Bring back the duplicate layer, and add a layer mask using either the shortcut icon at the foot of the Layers palette or by selecting Layer > Add Layer Mask > Reveal All. If you now activate the mask by clicking on its thumbnail icon within the Layers palette, you can load a brush with black and begin painting over the background areas to reveal the blurred background.



You'll need to reduce the brush size to ensure that you paint right up to the edges of the subject; once complete, the effect should be obvious, with your subject standing out clearly from the background. Don't forget that – as we're working with masks – if you happen to accidentally paint over part of the subject, you can easily correct this by painting white on to the mask.

Correcting perspective

Straighten a building that appears to be toppling over by altering its perspective

There's a curious phenomenon that occurs when you take a picture of a tall object from its base. Because of the angle at which the camera is held, the building can appear to be falling backwards, particularly when it's viewed alongside lower-level objects that aren't similarly distorted.

Fortunately, both Photoshop and Elements provide tools to rectify this problem: in Photoshop, choose Edit > Transform > Perspective; in Elements go to Image > Transform > Perspective. Anchor points will



With its perspective corrected, the tower in this image is straightened, and no longer appears to be falling backwards

appear at the corners and sides of your image, enabling you to manually correct its perspective.



Converging perspectives

The convergence of perspectives is most noticeable in images taken close to the base of a tall building, looking up. In such cases, you may find that the building looms over the picture towards the centre of the image from all sides, making perspective correction impossible.



Tower.jpg

Use the tower.jpg file on the CD to experiment with the perspective correction option. Take a look at the image and you'll see how the tower appears to fall back towards the centre of the picture.

HANDLING PERSPECTIVE ANCHORS

THE MOST COMMON perspective correction will involve dragging one of the top corner anchors outward. This has the effect of slanting the image forward.

YOUR CORRECTION won't be applied until you're satisfied with the adjustment. When you've made the necessary changes, you can apply the effect using the tick icon in the options bar, or by hitting [Return].

AS THE MOVEMENT of the anchors will often exceed the boundaries of your original image, you may find the process easier if you drag out the borders of your image to give yourself a little room.

YOU WON'T be able to correct the perspective of the Background layer of an image, so if you're trying to apply a correction to a flattened image make sure you change the Background layer to an image layer first.

REMOVING NOISE FROM YOUR PHOTOS

Whereas printed photos can suffer from grain caused by the film speed and the environment in which the shot was taken, digital cameras can tend to introduce noise to images

There's no denying that the art of photography has seen a resurgence in recent years with the advent of digital cameras flooding the market place. Convenience, ease of use and the immediacy of results are major factors; with the number of mega pixels being supported by average digital cameras increasing rapidly, the size and quality issues that have kept die-hard film users steadfast to the older technology are diminishing at the same rate.

Higher end cameras have the additional advantage of being able to change the film speed, or ISO, for individual shots, whereas film users will be tied to the speed of their

current film. Digital users can chop and change from ISO 50 or 100 to get the most from a well-lit subject in one shot, to the opposite extreme of ISO 1500 for capturing images within low level lighting situation.

Speed of light

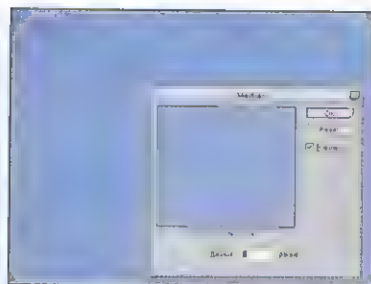
But, as film photographers will be all too aware, raising the ISO of your film presents a new set of issues through film grain. High ISO film is much more sensitive to light and is therefore susceptible to a form of distortion known as film grain. Over the years, such a phenomena has earned as many fans of the grungy style as it has enemies, who want to



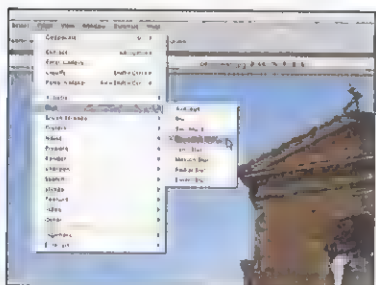
Page 72 Understanding and recognising noise will enable you to deal with it



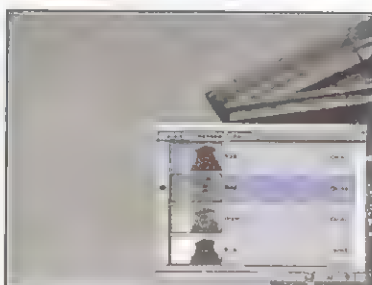
Page 74 Over-compressed images can suffer from additional noise



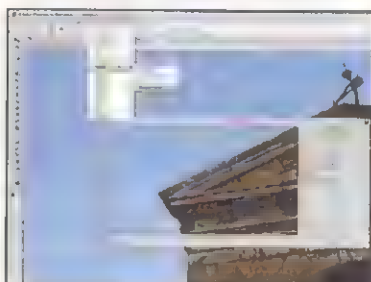
Page 75 Photoshop provides a number of filters that can help you tackle noise



Page 76 Reduce noise manually using selections and blurring techniques



Page 77 Correct noise by making adjustments to specific colour channels



Page 78 You'll need to take a different approach to noise reduction in Elements

remove what they consider levels of distortion from their photographs; but there's no denying that inclusion of grain within certain fields of photography certainly adds a touch of mood and atmosphere to a shot.

Noise annoys

Digital photographers have the advantage (or disadvantage, depending on your point of view!) of not having to worry about film grain, though there is an equivalent issue that raises its ugly head in similar circumstances: Noise. This is created by the compression methods used by digital cameras when saving files to the memory card.

Although many novice snappers will remain blissfully oblivious to Noise due to its subtle nature, it is painfully obvious to those more familiar with its effects. Over the following pages we'll introduce you to the concept of Noise, how to recognise it and, crucially, how to remove it from your images to leave your images as flawless and professional as possible.

If you're a film user who has scanned in your images to edit with Photoshop, you may be able to use many of the tips in this chapter to reduce the impact of the occurrence of film grain with varying levels of success – you'll have to experiment.

What is noise?

Before you can counter its effects you need to understand what causes noise in photos



ISO settings

The ISO setting controls a camera's sensitivity to light; the higher the sensitivity, the less light is needed to make an exposure. An ISO setting of 50 or 100 should be used in good light situations, while ISO 200 is good for cloudy days. ISO 400 or above is best for indoor use when a flash can't be used, or to capture fast-moving action such as sports.

Noise is commonly found in digital images taken at a high ISO setting, although it can be just as easily found in images captured at relatively low ISO settings of 50 or 100. At higher settings, noise takes the form of clearly visible dithering in areas of your image where large areas of colour graduate in tone.

Some dithering is caused by factors similar to those that cause grain in film photography. Higher ISO settings will increase the sensitivity of your camera's sensor to such a degree that not all the data it

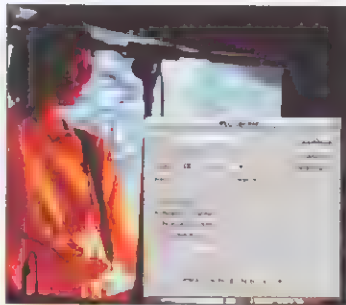
captures can be accurately processed, resulting in graduated colour regions manifesting specks of colour that create the dithering.

To better understand why your digital camera renders noise, you need to understand a little about the compression methods that are used when you save your image files. By and large, the JPEG format is used, and this is by nature a lossy compression method, which means that certain amounts of image data will be removed in order to reduce the size of the file.

IMAGE COMPRESSION

Lossy or lossless – which is the better method?

The most common format in which digital cameras save files is JPEG. This is effective for creating high-quality results from files half the size or less of those generated by your camera's proprietary RAW format. The format uses a 'lossy' method of compression, which involves removing image data; how much is removed depends on your camera's quality settings. Moderate compression is usually indistinguishable to the human eye, but higher settings will begin to create noise. There are methods of compression known as lossless, which reduce file sizes by reorganising the data, but these offer only a marginal improvement in terms of file size.



Further compression is applied when saving JPEG files in Photoshop, so keep the Quality slider at maximum

Recognising noise

If you know what to look for, and where, you'll be able to quickly identify any problems

One of the main problems with identifying noise is knowing where to look for it. Noise occurs in many images, although in the vast majority of shots it isn't immediately obvious, as it won't necessarily be a dominant feature throughout the image. You may have a perfectly presentable subject in the foreground of your shot; but, if you look closely at graduated background colours, speckled dithering will begin to become apparent.

If you take a look at the noisy.jpg file on the CD your eye should

automatically be drawn towards the sharp silhouette towards the bottom of the image. However, if you begin to look closely at the sunset sky above the leaves you'll be able to pick out noise in the form of dithering in the more subtle tones of the orange hues. If you now turn your attention towards the very top of the image, the noise will become even more apparent. This image illustrates the phenomenon well, as it's often in such large areas of more subtle colour graduation that noise is most prevalent.



Noisy.jpg

The noisy.jpg file on the CD will help you to recognise elements of noise within an image that you wouldn't be able to appreciate in the smaller pictures on these pages. Make sure you view the image at a magnification of at least 100% in order to make the effect of noise more easily identifiable.

KEEP THE NOISE DOWN

Here's how to reduce noise at the picture-taking stage

There are ways in which you can reduce the occurrence of noise in your images, although a reasonable understanding of how your camera works, and how it can be configured, must be assumed. If you make use of your camera's factory settings then your image will be 'averaged out', and the likelihood of noise appearing will increase, but if you're happy making manual adjustments to the aperture and shutter speed then you'll be better able to gauge the most appropriate settings. Choosing the right ISO speed for a particular shot is also important, while using a tripod means your shutter can remain open longer, to capture more detail.



The noisy.jpg file on the CD will help you to understand where noise appears in an image

Compression artifacting

Regular noise can be exacerbated by distortion caused by image compression



Leave your originals

Although core edits such as levels or curves adjustments will appear to improve your images, such changes will alter existing pixel data, and ultimately damage your images. In view of this we suggest that any such edits are carried out to duplicate files, so that you can return to your original capture should you choose to edit it using different techniques in the future.

The effects of different levels of compression can also cause distortion in your images. This is known as compression artifacting, and can be introduced not only by the camera, but also by subsequent image editing. This is why it's important to try to keep adjustments to your images to a minimum; the act of altering original data can only reduce the quality of the file. Even if you continually save your JPEGs in Photoshop at the highest quality setting (12), you'll find that your image becomes poorer with each

subsequent save, so starting off with the cleanest possible image in the first place is always desirable.

Compression artifacts are caused by the methods by which JPEGs store the bitmap data of an image; typically, this data is optimised in 8x8 blocks of pixels. The phenomenon is most recognisable as a halo which becomes increasingly visible around the edges of sharply contrasting areas of an image. To minimise the problem it's important that you make as few adjustments to your image as possible before saving.

RECOGNISING COMPRESSION ARTIFACTS

Take a close look at the edges of an image to spot any 'ghosting'

If you're unsure whether an image contains an excessive amount of compression artifacts, zoom into an area of strong contrast, such as the edge where a foreground subject meets its background. You can see in the image on the right that excessive compression has created a mottled effect around the edges of the building, and it's also possible to make out the 8x8 pixel blocks within the sky where the compression process has attempted to group together similar colours. To counter the effect you'll need to raise the quality levels on your camera and retake the image. Once you've finished any editing, save your image at the highest quality setting.

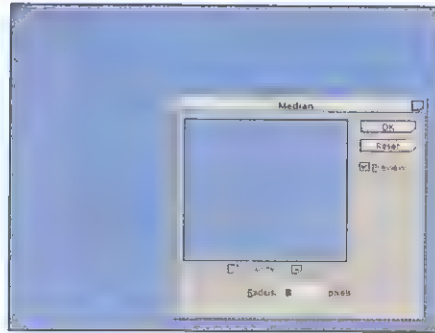


Excessive compression can create compression artifacts around the edges of sharply contrasting areas

Noise filters

Photoshop provides some quick fixes to help you counter the effects of noise in your images

So common is the problem of noise in digital images that Photoshop provides dedicated tools for tackling it. If you look under the **Filters > Noise** sub-menu, you'll find a handful of automated processes, although you may need to make selections around problem areas first so that you don't make changes to areas in which noise doesn't occur. Some filters will deal with different occurrences of noise better than others, and the following guide will help you to familiarise yourself with their functions. Don't forget that you



The Median filter offers the simplest approach to balancing out any dithering that appears in subtly graduated areas, such as skies

can make manual changes if you need more precise control, as you'll see on the following page.



Selection or mask?

When you only need to reduce noise from the background of an image, a simple selection around the affected region will often suffice. In more complex images you may find that the edges of foreground subjects bleed into the background, so it may be advisable to duplicate the original layer, and apply your method of noise reduction to the duplicate before masking-out areas to reveal the original layer.

THE NOISE FILTERS

THE ADD NOISE FILTER applies random pixels to increase noise in an image. This can be used to reduce banding in feathered selections or graduated fills, to give a more realistic look to heavily retouched areas.

THE DESPECKLE FILTER will detect the edges within an image before blurring all of a selection other than those edges. Such blurring removes noise, while preserving detail.

THE DUST AND SCRATCHES FILTER is a good choice for cleaning up scanned images, as it reduces noise by changing dissimilar pixels. It can also be used to sharpen your image, although a little experimentation with the appropriate Radius and Threshold settings will be necessary.

THE MEDIAN FILTER reduces noise by blending the brightness of pixels within a selection, and is particularly useful for reducing the effects of motion on an image.



Banding

As JPEG compression reduces the number of colours within an image, it can present problems in large areas of graduated colours. This can lead to banding, which gives the impression of such areas being rendered as more obvious bands of similar hues, rather than as a subtle gradient.

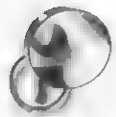
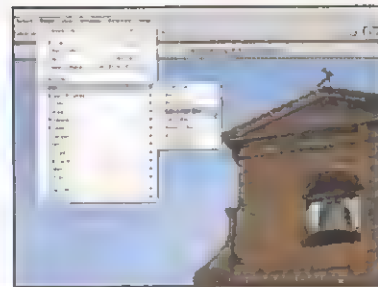
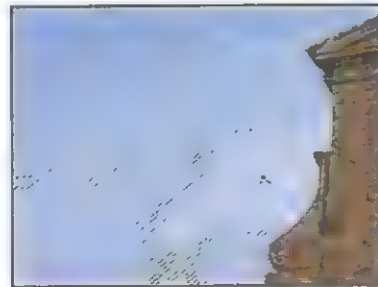
Applying Gaussian Blur

Counter noise within background regions by blurring detail and masking the dither



Belltower.jpg

Use the *belltower.jpg* file from the CD to work through the steps on this page. The image is sharp and free of noise around the main subject, but the blue sky is mottled with noise in the form of dithering where the compression process has failed to render the subtle colour changes.



Feathering

When you make a selection you have the option to configure the level of feathering applied, so that you can soften the edges of a selection as necessary. In our example we wanted to avoid excessive bleeding into the main subject, which is why we set the feathering to the minimum amount.

If you open the *belltower.jpg* image from the CD, your eye will be immediately drawn towards the main subject, which is clear and sharp. However, if you look at the sky you'll begin to pick out subtle dithering indicative of noise; zoom in to 200% and the problem becomes even more apparent. To counter this we can apply a blur to the background pixels.

To select the sky, use the Magic Wand and enter a generous Tolerance setting of 32. Leave the Anti-aliased option unchecked, but do check the Contiguous option. As we're working with a single-layer image we can ignore the Use All Layers option. Click in the background while holding down [Shift], and use the **Select > Similar** option to catch any unselected blue pixels.

You should now have selected all the sky, including that which is visible around the bell itself and any of the small areas that would have been tricky to pick out with the Magic Wand alone. With the selection still active choose **Select > Feather**, and ensure that Feather Radius is set to its lowest value of 0.2 pixels. Select the Gaussian Blur filter from the **Filter > Blur** options.

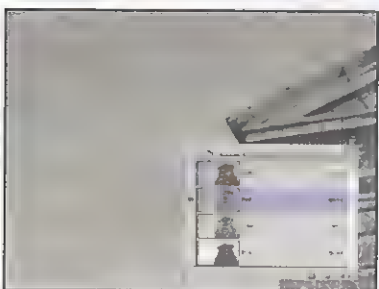
Apply the filter with a low Radius setting of around 2-5 pixels. You should find that any noise has been removed, as the background detail is blurred to hide the offending dithering, while the original sky tones are preserved.

Reducing noise using channels

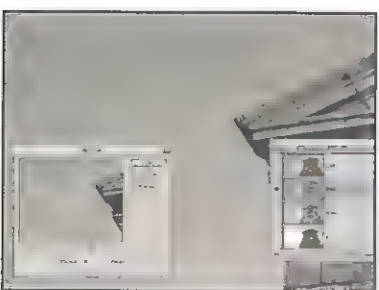
Target noise that may be more apparent in one colour channel than the others



Open the original belltower.jpg file again. We're going to tackle the same problem – the noise that's evident in the background – but this time we'll use the image's colour channels. As before, begin by making a selection of the sky using the methods we outlined on the previous page, and reduce the feathering to its 0.2-pixel minimum setting.



Go to the Channels palette and you'll see that the RGB composite channel is displayed, along with the individual colour channels. If you click on an individual channel the preview will change to display just that channel's content. Click on each channel in turn, and you'll notice that the Red and Green channels contain the most noise.



This time, instead of using the Gaussian Blur method, go to **Filter > Noise > Median**, and enter a radius value that's relative to the amount of noise found in the Green and Red channels.



Once you've balanced out the Red and Green channels, you can return to the composite channel to view the results. A similar but alternative approach would be to carry out the same process after converting the image to Lab mode, making adjustments to the Luminance (a) channel.



Belltower.jpg

The following steps make use of the belltower.jpg file that we used on the previous page. If you've already carried out the steps on that page, make sure you either revert to the original file or reopen the file from the CD.



Finding your channels

The Channels palette is grouped with the Layers palette, so simply click its tab to access your channels.

If for any reason the Channels tab isn't visible you can bring it up using the **Window > Channels** option.

Noise reduction in Elements

Without access to the individual colour channels, you'll need to rely on your filters



Online tutorials

The About.com network provides a wealth of tutorials that will be of interest to both Photoshop and Elements users, at <http://graphicssoft.about.com/b/a/071022.htm>.

Photoshop Elements users face some limitations when it comes to removing noise. The lack of access to an image's channels means that option is out, although there are workarounds, such as the Gaussian Blur technique outlined on page 76 for example. All the Photoshop noise filters we've mentioned are available, as is the Reduce Noise filter, which is unique to Elements. Using this dialog-based command you can determine the settings for the filter before applying it to either the entire image or to a selection, and when



Thanks to Elements RAW format support, you can use the Color Noise Reduction slider to remove noise from uncompressed files on import

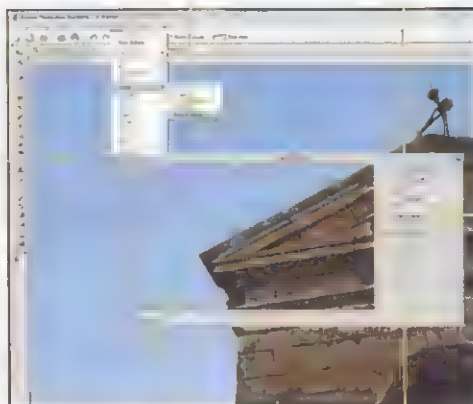
you understand exactly what the various sliders do you'll be able to get the most out of the tool.

THE REDUCE NOISE FILTER

The Reduce Noise filter is unique to Photoshop Elements and can be found grouped with related filters under the Filter > Noise sub-menu.

Although you might be tempted to keep the Preview option checked, it's useful not to, so that you can compare your original image with the dialog box preview.

The dialog controls are presented through a window that includes a preview of your settings, so you can gauge the best settings for your image.



The Strength slider controls how much noise reduction is applied. Raise or lower this depending on the amount of noise apparent.

The Preserve Details slider enables you to reduce the amount of correction applied to areas of high detail, and is useful for minimising the effect of the filter on foreground subjects.

Dithered colours created by noise can be controlled using the Reduce Color Noise slider. A low-to-medium setting will ensure that you retain clarity in detailed foregrounds.

The Reduce Noise filter

Let's take a closer look at Elements' dedicated tool for countering noise in your images



Reopen the *belltower.jpg* file in Elements, and choose **Filter > Noise > Reduce Noise**. Uncheck the **Preview** option towards the bottom-left of the dialog, so that you can gauge how your settings are affecting the image while keeping an eye on the original in the main window.



Belltower.jpg

Once again, we'll be using the *belltower.jpg* file, so either revert to the original file or reopen it from the CD.



With settings of 6 for **Strength**, 100 for **Preserve Details** and a moderate 25% for **Reduce Color Noise**, you'll find the noise is reduced dramatically within the sky area without the clarity of the building being affected. Increasing the values will make the effects of the different sliders more obvious.



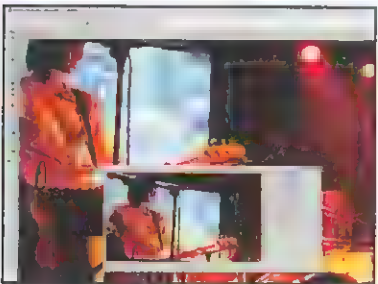
Now open the *klang.jpg* from the CD for another example of noise; this time the noise affects more than just the background, due to the low-level lighting and high ISO speed used. Run the **Reduce Noise** filter again – it will have retained the settings used in the previous step – and you'll see how some areas of detail lose clarity; this is particularly noticeable in the chrome of the drum kit.



Klang.jpg

The *klang.jpg* image illustrates the occurrence of noise in an image taken using a high ISO speed.

Dithering is apparent throughout the image, even on the foreground subject, making it more difficult to clean up the image successfully.



Increasing the **Reduce Color Noise** slider to around 80% will reduce some of the excess colour saturation, while a high **Preserve Details** setting of 200 will ensure we preserve some of the more complex detail in the image. Reducing the **Strength** to around 4 will help to balance the overall correction. Toggle the **Preview** option on and off to see the original and corrected images.

Chapter 8

SAVING YOUR PHOTOS: JPEGs, TIFFs AND PSDs

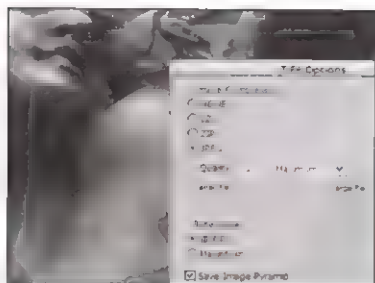
Once you've imported your images and made any necessary adjustments you'll want to save them with a minimum loss in quality, but which file format should you choose?

One thing you'll realise as you work through this Guide – if you didn't know it already – is that a considerable amount of work will often need to be carried out on your images in software such as Photoshop after you've captured your initial snapshots. Even the most capable photographers will occasionally need to perform some retouching work, whether this takes the form of a simple levels or curves adjustment or involves more ambitious editing. After you've finished correcting and enhancing an image, you'll need to save it; this process is a little more complicated than simply selecting File > Save

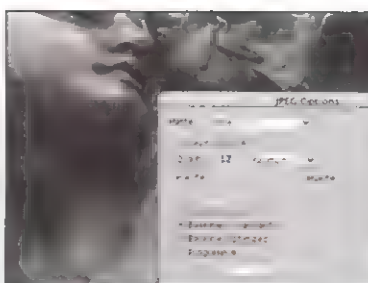
from the Photoshop menu, as you'll discover over the following pages.

TIFFs and JPEGs

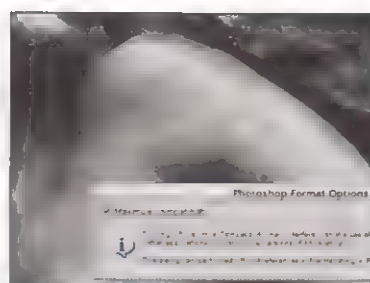
There's a bewildering array of file formats to choose from when you come to save your edited photos, and knowing which one is the most appropriate for a particular image requires a basic understanding of what happens to your files once you've chosen a particular method. For example, if you want to keep your files at their highest possible quality then you might consider the TIFF format, but the absence of any compression means that your growing collection of images will



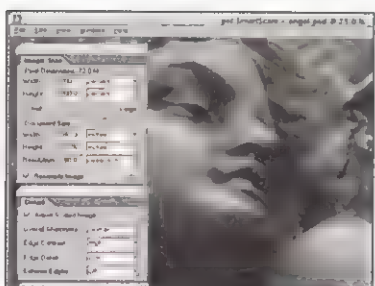
Page 83 Configure your TIFF files before saving them to your hard drive



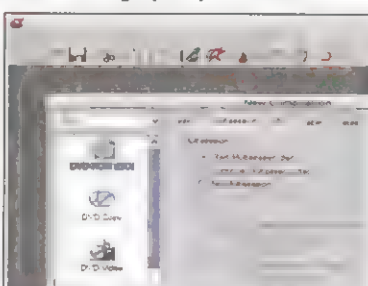
Page 84 JPEG compression has a big effect on image quality and file size



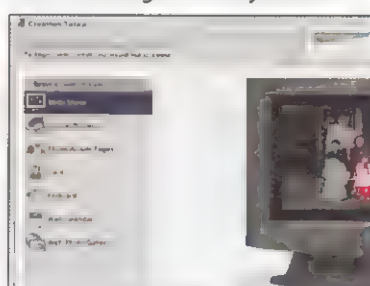
Page 85 Photoshop's native PSD format is fast becoming an industry standard



Page 87 Discover how third-party software can help you scale-up images



Page 88 Free-up space on your hard drive by burning your photos to a disc



Page 89 Get creative with Elements, and share your photo collection

soon threaten to take over your hard drive, due to their large file sizes.

Alternatively, you could choose the more familiar JPEG method to save on space, but you'll need to be sure that you've completed your editing, as further manipulation and saving in the format can cause your images to deteriorate, as compression artifacts become more prevalent.

The PSD format

Other formats are simply unsuitable for photographic images, and should be avoided at all costs, as you risk ruining your images due to the lack of support these formats offer for the amount of colours used in photos.

The GIF format is used extensively for web graphics, but the limited colour palette will result in massive amounts of detail being stripped from your photos, even at the highest 256 colour setting.

Another option is to save your files in Photoshop's native PSD format, although of course you'll need to bear in mind that your audience only be able to view the files in Photoshop, or in a compatible viewer; friends and family who want to view your images may not have either of these. You'll also need to bear compatibility in mind if you want to share your files on a CD, or create a slide show.

Image file formats

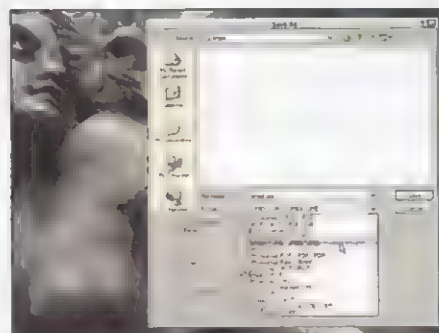
Here's a guide to the various formats in which you can save photos, and when to use them



JPEG 2000

JPEG 2000 is an updated version of the regular JPEG format. It uses more effective compression to produce better-quality images than the original format. To take advantage of this format you'll need to install a dedicated plug-in that you can find on the Photoshop Installation CD.

When you use the File > Save command a JPEG will be saved as a JPEG, and a TIFF will be saved as a TIFF, but if you're saving a processed RAW file for the first time you'll be prompted to decide on the most suitable format for your image. JPEG and TIFF are the most common formats used by digital photographers; the JPEG format is a universal standard, but involves an element of image degradation due to compression, while TIFFs provide the best potential quality, but at file sizes that make them impossible to



Photoshop's File > Save As option enables you to choose your preferred file format from the drop-down list

email to your friends and family. Below is a round-up of the most common image formats.



Vector graphics

Photographic images are raster graphics, meaning that they're constructed from coloured pixels. Vector graphics are used by applications such as Illustrator and Freehand, and make use of mathematical formulae to create shapes defined by paths and fills. Vectors can be scaled infinitely, without any loss of detail, but are constrained by the number of colours that are supported, making them ideal for logos and illustrations but unsuitable for more complex, photorealistic imagery.

TAKE YOUR PICK

THE TIFF FORMAT offers the most faithful preservation of your files.

The format supports compression methods, although with none applied you can be sure that your images will remain in their original form, albeit at file sizes that may quickly fill up your hard drive.

THE JPEG FORMAT is the most ubiquitous graphic format. It enables you to save high-quality versions of your images, and uses compression to reduce the file size. JPEG files can be viewed online, and aren't application-specific.

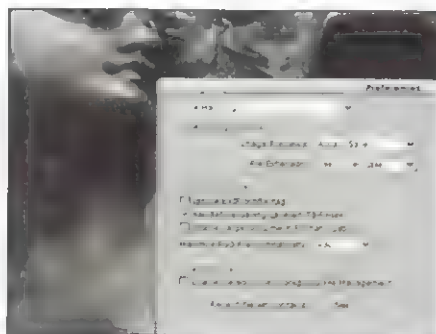
PHOTOSHOP'S NATIVE PSD format is an option for file storage, but will present problems if you plan to share your images; anyone who wants to open them will need either Photoshop or a compatible viewer.

GIF AND BMP are best avoided, due to their limited colour range, as are the EPS and PDF formats, which are better suited to vector artwork.

Saving TIFFs

When you save a file in the TIFF format you'll need to specify a number of settings

The Tagged Image File Format (TIFF) is a flexible bitmap format which is the natural choice if you want to save your images at the highest possible quality, as no compression is applied. However, there are optional compression settings, as you'll see below, should you choose to balance quality with file size. The format is universally accepted as a professional standard, and is used extensively by graphic designers and print bureaus. It's also recognised by virtually all image editing and DTP applications and is



A trip to Photoshop Preferences via the Edit menu will reveal a few methods of ensuring that TIFF files remain as universally acceptable as possible

platform-independent, so files are equally accessible to users of both Windows or Mac systems.



Back up your originals

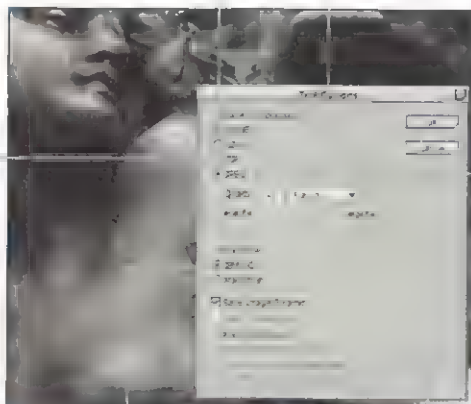
Regardless of the format you save your edited files in, it's strongly recommended that you keep hold of the original shots from your camera. So, if your camera creates TIFF files by default, be careful not to overwrite these with edited images.

TIFF SETTINGS

When you save a file as a TIFF, you have the option of applying compression. Selecting None will ensure that the original quality of your image is preserved.

ZIP is another lossless compression method. Image data is reorganised, rather than removed, in an attempt to reduce the size of the file.

There are subtle variations between the Byte Order on Windows PCs and on Macs. Check the relevant option for your target user if possible.



LZW is a lossless method of compression that's most useful when applied to images featuring large areas of single colour.

JPEG is the most efficient lossy compression method. If you select this option you can choose the level of compression using the quality slider below.

Layer compression enables you to specify a method for compressing Photoshop layer data. Choose the Discard option if you want your file to be as accessible as possible.

Saving JPEGs

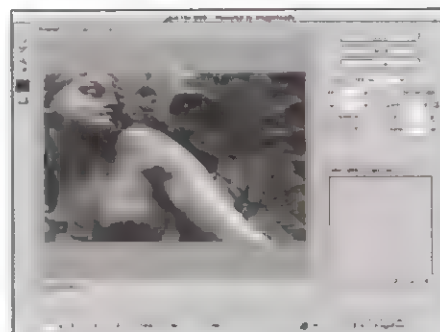
You'll need to consider the ultimate use of your image if you want to balance quality with size



Sharpening images

You may be tempted to sharpen your images using the various **Filter > Sharpen** commands, but unless you have a specific need to do so you'd be advised to leave these options alone. Generally, such methods exaggerate edge detail, and this can be susceptible to compression artifacts when the image is saved as a JPEG.

The JPEG is undoubtedly the most ubiquitous photorealistic file format. Most digital cameras support the format, and their inbuilt processors compress the image file to save precious memory card space. However, if you want the best quality image, you really need to think about using the RAW format on your camera if it's available, before processing the image and deciding on the best output format. As you'll see in the next chapter, the JPEG format is incredibly effective at reducing an image file to a mere



Photoshop's **Save For Web** feature provides more comprehensive controls if you're saving images in the JPEG format

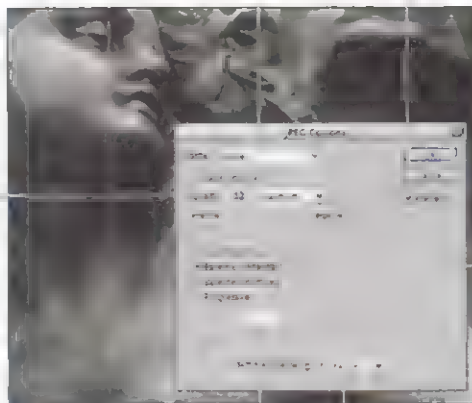
fraction of its original size, although some trade-off in terms of image quality is unavoidable.

JPEG SETTINGS

If a JPEG image contains transparency, you'll need to choose a **Matte colour** to replace the background, as the format doesn't support transparency.

The **Image Options** specify the amount of compression applied. A setting of 12 must be used if you want the highest possible quality with the least compression.

If you decide to select the **Progressive** option a series of increasingly detailed scans will be displayed as the image downloads; you can specify how many.



With the **Preview** option checked, you'll get a clear visual indication of how much the compression might degrade your image.

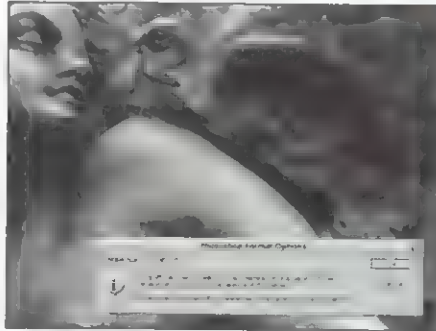
Select **Baseline ("Standard")** to use a format recognised by web browsers; the **Optimized** version creates a slightly smaller file with optimised colour.

If download times are an issue, you can choose a connection speed from the drop-down list to see an estimate of how long your file will take to download.

Saving PSD files

Photoshop's proprietary file format is fast becoming a publishing industry standard

Photoshop's own proprietary format, PSD, is increasingly becoming a viable alternative to TIFF and JPEG. Thanks to Photoshop's dominance in the image editing arena most professional production houses use the software, and saving files as Photoshop Documents offers many advantages, including support for layers and other Photoshop features. Photoshop CS incorporated developments that ensure PSD files remain as compatible with earlier versions of the software as possible. Bear in mind however that, while



When saving PSD files using Photoshop CS you're offered the opportunity to maximise compatibility with related applications

many rival applications now support the format, only Photoshop users will have full access to PSD files.



Proprietary format

A proprietary format is one that's native to a specific software title. TIFF and JPEG are generic titles, and so are recognised by any image editing application worth its salt, while the PSD format was developed by Adobe specifically for use with Photoshop.

POINTS TO CONSIDER

- **LAYERS, ADJUSTMENT LAYERS** and masks are recognised and fully editable, a feature the JPEG and TIFF formats are incapable of offering.
- **TEXT, AND VECTOR** content such as shapes also retain their editability. Such elements would need to be rasterised and flattened if alternative formats were used.
- **NO COMPRESSION** is applied to a saved PSD, making it the most faithful reproduction of your original file possible, although complex or multi-layered files will quickly become demanding in terms of file size.
- **IF YOU'RE DISTRIBUTING** PSDs, you'll need to ensure that the recipients have access to Photoshop. Other applications may open PSD files, but not all will recognise more specialised features.
- **IF YOU'RE USING** an earlier version of Photoshop, certain features may be restricted or unavailable.



PSD versus TIFF layers

The TIFF format enables you to save layers within a file, although there are legacy issues, as some older applications are unable to recognise this additional information. If you need to present your work with fully functional layers intact the PSD format is the only real option.

Saving stock images

Does your camera have the beef to save images large enough for stock image libraries?



Interpolation

When an image is resampled, an Interpolation method is used to assign colour values to any new pixels Photoshop creates, based on the colour values of existing pixels in the image. The Interpolation method employed is controlled through the General settings under Photoshop's Preferences.

Many amateur photographers are beginning to make their hobby pay for itself by selling their photos to stock image libraries that provide photos to newspapers, magazines and other customers. However, getting your pictures accepted by such libraries requires not only a talent for taking good photos, but also the ability to prepare them so they're acceptable to the paying clients. If your camera is less than 6MP, with image output dimensions below 3,000x2,000 pixels at 300dpi, then you'll need

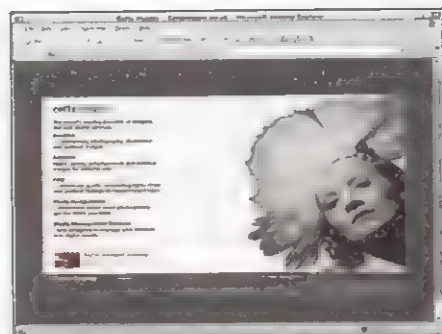


Image libraries such as Getty (www.gettyimages.com) provide digital assets to many of the world's leading creative studios

to consider increasing the size of your images if they're going to be considered for acceptance.



Free libraries

Getting accepted by the big image libraries is no mean feat, but you might choose to hone your skills by supplying free stock photo sites such as [stock.xchng](http://stock.xchng.com) (www.scx.hu). Not only will this enable you to build up your portfolio, it will also give you some idea of the kinds of images designers are looking for.

PREPARING YOUR IMAGES

IF YOUR CAMERA supports the RAW format, then take your images at this setting, and get to know the Camera RAW plug-in inside-out; many of the core adjustments to balance your images' light and colour settings can be carried out from here without any loss of image quality.

THE CAMERA RAW plug-in also enables you to determine the file size of your images. A modest increase in the dimensions of your files is possible, with only minimal image degradation.

INCREASING THE SIZE of your images will introduce pixelation. For the best results the Image Interpolation option under Edit > Preferences > General should be set to Bicubic.

YOU CAN THEN apply the Unsharp Mask filter to your resampled image, to restore any detail that may have been lost during resizing.

Increasing image size

Dedicated resampling software can provide impressive results if you're enlarging images

When you increase the size of an image file, you will always introduce pixelation. If you double the size of an image, Photoshop is adding every other pixel to the new image, and it must calculate colour values for each one. Using the right interpolation methods will go some way to ensuring the best possible results, but the more you increase the original file's size, the more additional pixels will need to be introduced, making it more likely that pixelation will become apparent within your image.

If you do need to increase the size of an image substantially, you may achieve better results if you resample in increments of around 10%. You can then apply a little of the Unsharp Mask filter, to counter any lack of detail, before continuing the process. The effect can be convincing but, as you might imagine, the process can also take some time, and there's plenty of margin for error. An alternative approach might be to make use of dedicated resampling software, which takes a more intelligent approach.



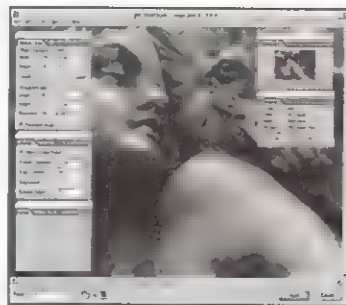
Resampling

Resampling refers to changing the pixel dimensions and display size of an image. When you downsample, or decrease the number of pixels, data is deleted from the image. Upsampling, or increasing the size of your image, requires new pixels to be added, which all too often leads to visible pixelation.

RESAMPLING SOFTWARE

Enlarge your images like the professionals using third-party tools

Resampling applications, such as Extensis pxi SmartScale and LizardTech Genuine Fractals, are titles dedicated to the task of enlarging your images. Unlike Photoshop, which will interpolate individual pixels, such titles will analyse the content and structure of your image to recognise lines, curves and fills. The software will then reconstruct your image using vector principles to calculate how any new data should be added. Both titles provide excellent results, and are easy to use, although you will need a reasonably powerful computer (and a little patience) to process the amount of data involved.



Extensis pxi SmartScale presents itself through palettes, making it a natural extension to Photoshop

Burning images to disk

If your image collection is taking over your hard drive, you'll need to consider removable media



How many images?

If we consider the average JPEG weighs in at around 3.5MB, then it should be possible to store around 185 images on a CD, and if you're saving TIFF files at around 15MB each then you can expect to store just over 40 images. Compare this with a DVD's capacity of around 1,285 JPEGs, or 300 TIFFs, and you'll see why DVDs are becoming popular.

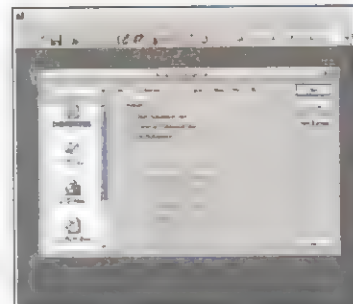
Saving your images as TIFFs or PSDs will soon begin to take its toll on your computer's storage capacity. External hard drives are becoming more affordable, and offer one solution to the problem, but the cheapest form of storage by far is regular CD-ROMs or DVD-ROMs. Most computers now come with CD burners as standard, and transferring your images to removable media will certainly free-up space and improve your computer's performance, although you'll need to be careful about how you save your images.

A regular CD can hold around 650MB of data, while the average DVD can hold around 4.5GB, so if you do have the facility to burn to DVD then you'll certainly find your image collection will be a little more manageable. You'll need to be fairly organised when it comes to grouping your images, although some dedicated asset management applications are capable of indexing the content of your storage media within a database, which will prompt you to dig out a particular disk if you're not sure where to look.

ISO 9660

Make the most of your CD burning sessions

Most burning software will support the creation of ISO 9660 data CDs. These are data CDs formatted using the ISO 9660 file system, and are capable of holding multiple sessions; this means the disk can be written to multiple times until it's full, and such CDs can be read by all CD-ROM drives and readers. Dedicated applications such as Nero will automatically instigate a multi-session burn, which you can add to at a later date. Using, and being familiar with, such methods means that you can be more efficient when saving your images over time, as you can fill up CDs rather than use a new one each time you empty your memory card.

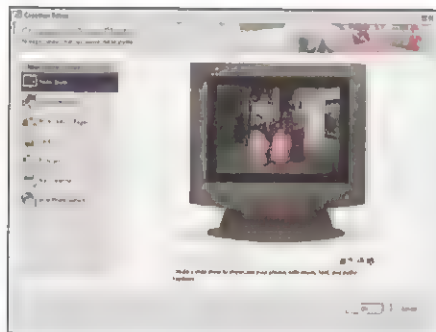


Software such as Nero will ask if you want to create a new disc or continue burning a multi-session disc

Getting creative with Elements

Share your images in a variety of fun ways with the help of easy-to-follow wizards

Having edited and saved your images, you'll want to share them with your family and friends. Photoshop Elements users are spoilt for choice in this respect, with a range of options available once they click the Create button at the head of the Edit or Organizer interface. From here, it's a simple matter of deciding on an output method, before running through the subsequent screens to determine your preferences, and then leaving Elements to get on with creating your chosen option. After all, who wants to huddle around a



The Create button at the head of the Elements interface prompts the Creation Setup wizard, which guides you through the various options

computer monitor when you can sit in front of the TV watching a slideshow complete with music?



Preparation is key

Although the wizard approach simplifies the process of creating the various display options greatly it will do nothing to enhance your images, so make sure that you edit your images first.

CREATIVE OPTIONS

THE SLIDE SHOW option enables you to choose which images will be included, along with any delay and transitions between them, and add music, text and audio captions.

A VIDEO CD (VCD) with menu enables you to achieve the kind of results you'd normally associate with DVD. Most conventional DVD players will recognise VCDs burned through Elements, so you can view your images with your friends and family on your TV.

THE PHOTO ALBUM PAGES and Web Photo Gallery options enable the viewer to browse your images at a more relaxed pace, as they can choose which images to view and when.

THE CARDS, POSTCARDS and Wall Calendar options offer a host of creative possibilities, enabling you to turn your snapshots into personalised gifts and greeting cards.



And Photoshop?

Many of the options available in Elements are aimed towards the consumer market, and Adobe has decided not to clutter up its flagship software with such trinkets. However, there are some similar options, which we'll look at in the final chapter, available under the File > Automate menu.

Chapter 9

OPTIMISING IMAGES FOR THE WEB AND EMAIL

In this chapter...

- Learn how to convert your images to the format most suitable for the web
- Learn how to compress your images to save space
- Learn how to convert your images to the format most suitable for email
- Learn how to convert your images to the format most suitable for the web
- Learn how to convert your images to the format most suitable for the web

If you want to email your photos to friends and family, or place them on a website, you'll need to reduce the file size while preserving image quality; it's all about getting the balance right

With digital SLRs becoming increasingly affordable, there's a growing army of relatively novice photographers who are keen to learn how to use the manual settings of such cameras to take the kind of pictures you'd be very lucky to get from the average 'point and shoot' compact. If these images are then corrected and enhanced using techniques such as those we've been looking at, then their quality may well exceed the expectations of the typical enthusiast snapper.

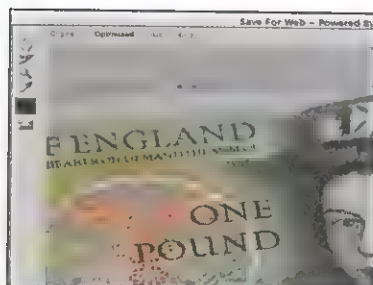
If the quality of these images is to be preserved, they'll need to be saved in the optimum format, but this can present problems should you try to

share them via email, or make them available to the wider world by placing them on the internet.

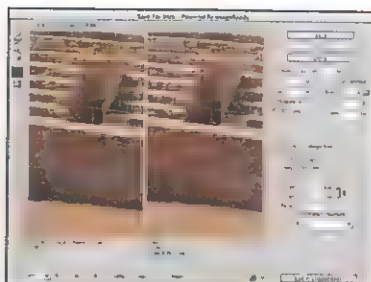
Your images online

A 20MB TIFF file is certainly not the sort of thing you want to be putting online, with even a typical broadband connection taking considerable time to download such a bandwidth-hogging monster. Sending CDs through the post is an alternative method of delivering such files, but this means relying on 'snail mail', which can't match the immediacy of email.

It is possible to deliver larger files electronically, but to do this you'll



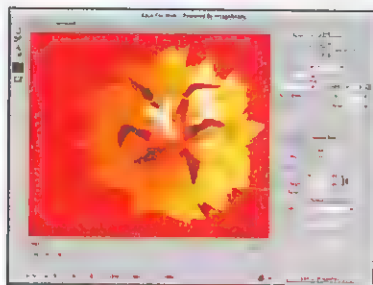
Page 92 Discover why you need to optimise your images for online use



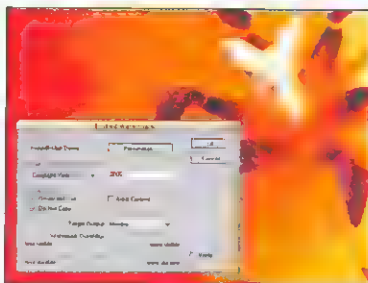
Page 93 Photoshop's Save For Web tool automates the optimisation process



Page 94 Understand how the Save For Web tool controls JPEG compression



Page 95 Reduce a cumbersome TIFF file to a fraction of its original size



Page 96 Find out how watermarks can help you to track your images online



Page 97 Add a watermark to your images so they can't be stolen

need to balance image quality with file size. We'll show you how to do this, but, before you rush headlong into the process, consider for a moment the implications of putting your images online.

Having captured a good collection of photos, and spent time enhancing them, do you really want to make them accessible to anyone and everyone who has an internet connection? You might, for example, have some fantastic shots from your last holiday, but do you want to make these available over the web, only to find your perfect photo of a sunset over the Taj Mahal plastered on advertising hoardings across the

country, with no recognition of, or remuneration for, your efforts?

Watermarks

If this is making you a little nervous, don't worry. The processes we'll look at will not only reduce the file size of your images, but also their resolution and dimensions, making them unsuitable for the vast majority of print projects. And, just to be on the safe side, we'll show you how to add a watermark to your images; this will make them even harder to steal, while at the same time providing sufficient information should anyone wish to contact you with a view to purchasing the image.

Image optimisation

To produce web-friendly photos you'll need to cut the file size while preserving image quality



WebMonkey

We only have room here to cover the basics of image optimisation, but there's a vast range of online resources that can take you further. WebMonkey (www.webmonkey.com) is an excellent site that will help you understand everything from monitor size limitations to Gamma correction, in addition to offering web tutorials.

The process of optimising images was heavily developed during the early years of the internet. Then, a typical modem would have had a connection speed of 14.4Kbps, and any graphics embedded in a page would slow the downloading of the page to such a degree that images would only be included out necessity, rather than for aesthetic reasons. Web designers quickly realised that the delivery of online graphic content required the careful balancing of file size and image quality, and this used to have to be done manually, but



Using Photoshop's Save For Web feature we managed to reduce this hefty 14MB image file to a more manageable 60KB

Photoshop's Save For Web feature makes things much easier, as you'll discover over the next few pages.



PPI

Although monitor technology is constantly developing, the average screen still displays images at 72ppi, or pixels per inch. This roughly equates to a print resolution of 72dpi (dots per inch), so images optimised for on-screen display will be unsuitable for printing, as files destined for print will usually need to be saved at 150-300dpi.

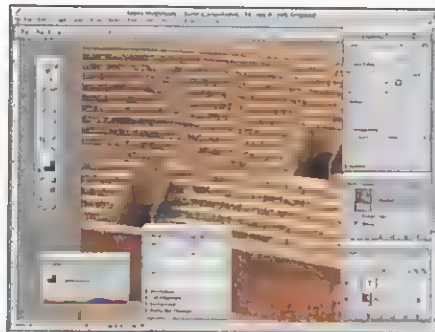
OPTIMISATION CONSIDERATIONS

- ☐ **THE WEB** supports two primary graphic formats, JPEG and GIF. The former is the only option you should consider if you want to optimise photorealistic content, while GIFs are better suited to flat-colour graphics such as buttons and logos.
- ☐ **THE AVERAGE MONITOR** displays at 72ppi. Reducing your images to such a resolution will reduce the size of the files considerably, while at the same time making them unusable for the average print job.
- ☐ **REDUCING THE** dimensions of your image will also provide dramatic improvements in file size.
- ☐ **SOME LOSS** of image quality is to be expected. If you use the JPEG format this will usually take the form of compression artifacts. The Save For Web interface will enable you to preview your results.

The Save for Web tool

Optimising images became a whole lot easier with the introduction of this powerful feature

When the Save for Web feature was introduced in Photoshop 5.5, a whole generation of web designers breathed a sigh of relief. Prior to its arrival, it was necessary to reduce the dimensions of an image, its resolution and its colour palette manually, before making an educated guess as to the most appropriate level of compression to apply. Choosing File > Save for Web automates much of this process, with all the necessary controls at your disposal along with the all-important preview, so you can see exactly how



Working in ImageReady can be likened to working in Photoshop, but in constant Save For Web mode, on account of the Optimize palette

large your file will be, and get some indication as to its quality, before committing to your changes.



ImageReady

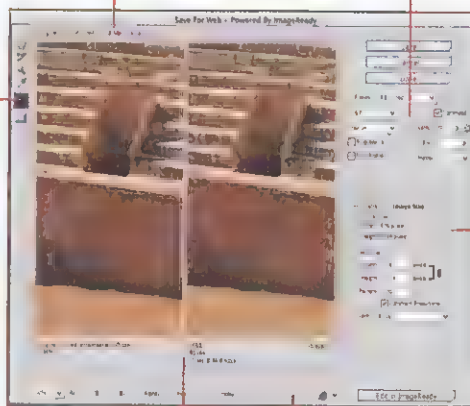
Don't forget that your standard installation of Photoshop includes the complimentary web design title ImageReady. If you have an image open in Photoshop you can work on it in ImageReady by clicking the Edit in ImageReady button found at the foot of the toolbar.

THE SAVE FOR WEB INTERFACE

Using the tabs above the main preview area you can choose whether to view the optimised file on its own, or alongside the original.

A variety of familiar tools are available for handling your images, including the Hand, Zoom and Eyedropper tools.

The size of the converted file is shown at the foot of the preview, along with an indication of how long it will take to download at a given speed.



The primary optimisation controls feature a drop-down list of presets, along with all the controls necessary for manual adjustment.

The Image Size tab enables you to change the optimised image's size without having to exit the Save For Web interface.

Magnification and colour controls are found at the foot of the interface, along with the option to view the converted file in your web browser.

Optimising JPEGs

To get the most out of your optimised photos, you'll need to understand the JPEG options



Progressive JPEGs

The Progressive option has little effect on optimisation, as this specifies the way in which the file loads; check this if you want your viewers to see your image gradually come into focus as it loads.

The Save For Web tool's JPEG setting will always be the best option for optimising photorealistic content, and three alternatives are available from the Presets menu. The Low, Medium and High settings refer to image quality, rather than the amount of compression, but you can easily make manual adjustments to the compression process using the controls that appear once you've made your selection. These include some basic options, such as the compression rate and quality, while more advanced settings, such as Blur,



The JPEG settings may appear rather esoteric at first, but with the help of the guide below you'll soon be able to master them

enable you to trim a few additional pixels from your final image at the expense of image quality.



Matte

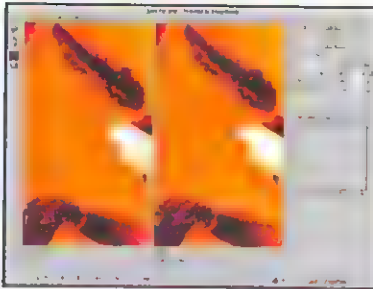
The Matte option comes into play if your image contains any transparency. The JPEG format is unable to support transparency, so you'll need to use this option to specify the colour that will fill any transparent areas.

OPTIMISING JPEGS

- ❑ **THE MAIN** preset menu is complimented by the formatting options below, which change according to the selected preset; choose the JPEG option to best save photographic content. The PNG-24 option is also suitable, although less options become available.
- ❑ **ENTER A QUALITY** value for your file, or click on the arrow to bring up a slider. Higher quality means higher file sizes, so start off with a medium value to gauge the effect on file size.
- ❑ **KEEP THE OPTIMIZED** box checked, and reduce the Quality setting gradually. This will further reduce your file size, although you'll need to guard against the introduction of compression artifacts.
- ❑ **ADDING BLUR** to an image will reduce the amount of detail. However, if you balance this setting well you'll be surprised at the reduction in file size that's possible.

Saving a TIFF as a JPEG

Gain a better understanding of JPEG optimisation by running through the process

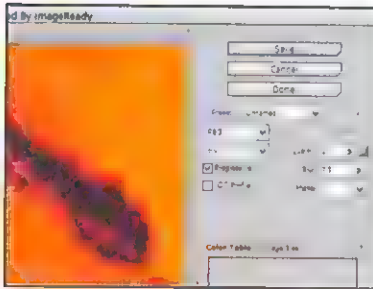


1 Before you open the tulip.tif file from the CD, take a look at its properties; it weighs in at 18.5MB, with dimensions of 3,072x2,048 pixels at 180dpi. This is far too large for regular online delivery, so open up the Save For Web tool via the File menu. Choose the JPG Medium preset, and select the 2-Up view tab, so that we can compare the original and optimised images.

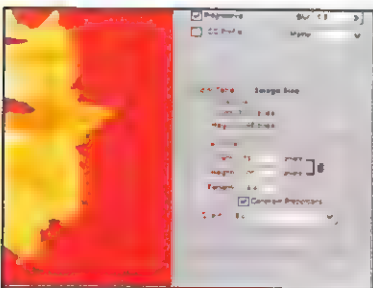


Tulip.tif

Use the tulip.tif file on the CD to discover how effective the Save For Web tool can be. You could use one of your own images, but this 18.5MB TIFF file provides a suitably large file for demonstrating the effect of the conversion process.



2 Keep the view at 100% – if possible – to avoid increased perceived distortion of the image, and expand the dialog box, if you have room, for a better view of the image. Notice how, with only the default settings applied, we've managed to reduce the file size to 125KB. If you reduce Quality to 15, enter a Blur value of 0.5 and check the Progressive option, the size is further reduced to 88KB.

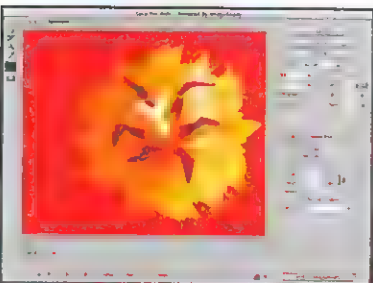


3 However, the image dimensions are still far too large for displaying on a typical monitor without the viewer having to scroll, so select the Image Size tab below the formatting options. Check Constrain Proportions, select the Bicubic Quality option, set Width to 750 pixels and hit the Apply button.



Patience is a virtue

The process of converting larger images can be quite demanding on your computer, so don't expect all your settings to be applied instantly. You'll notice a progress bar at the foot of the Save For Web interface; wait for this to complete before you attempt to make any further adjustments.



4 This has reduced the image to a mere 13KB. Naturally, some sacrifices were necessary, but even raising the Quality slider to 30 results in a file that still weighs in at less than 20KB. Our image has been reduced to less than a thousandth of its original file size, and it will download in no time at all when sent via email, or embedded in a web page.

Watermarking your images

Stamp your authority on photos you upload to the web, and prevent them being stolen



Copyright issues

Protecting the copyright of your images can be a headache, but if you optimise your images as we've previously suggested, then embed a watermark in any preview images you provide online, it's unlikely that your images will be of much use to anyone if they don't have your permission to use them.

You'll be familiar with the concept of the watermark if you've ever visited an online image library. Watermarking involves deliberately defacing an image by superimposing another image over it, making it unusable for any purpose other than serving as a preview of the original. This image will most commonly be a logo or some text that identifies the original photographer, and can include an email address to provide a means of contact.

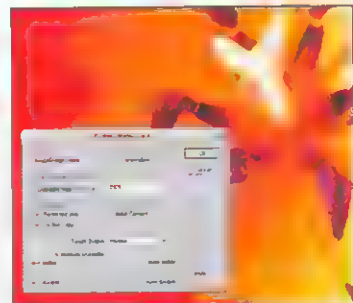
Obviously, you won't want to watermark your original photos, but

the process does provide a level of security if you're making your images available through a website. If you decide to sell your photos online you'll be able to display reasonably high-quality previews, without fear that they'll be used without your permission. We outline a fairly standard method of creating a watermark on the next page, but if you want the ultimate protection for your images then you might want to consider the Digimarc option, which is tucked away along with the regular Photoshop filters.

USING THE DIGIMARC FILTER

Track your images using this invisible watermarking system

Rather than creating a visual watermark, you can choose the Digimarc process (Filter > Digimarc > Embed Watermark) to embed in your original, full-size images invisible information that will limit viewing and usage of those images on the web, on-screen or in print. You can also include copyright information that will enable potential customers to identify you as the originator of an image, in case they want to get in touch with you with regard to using that image or obtaining others. You do have to pay a small charge for the service, but if you're at all serious about selling your photographs online, then it's a worthwhile investment.



Creating a Digimarc watermark enables you to embed copyright and other information in an image

Embedding a visual watermark

In addition to protecting your copyright, a watermark can serve as a means of promotion



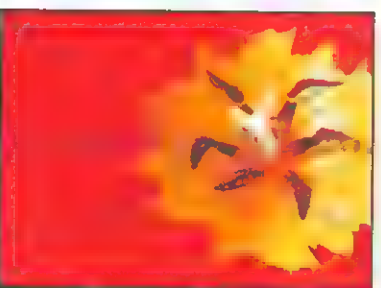
1 Open the `optimised_tulip.jpg` file; you'll see that the image provides a fair-sized preview of the original TIFF file we optimised on page 95. However, if we were to upload this image to a website it could easily be stolen, so we'll add a watermark to protect the image while allowing it to be viewed. Select the Type Tool, and type some text across the image using a bold black font.



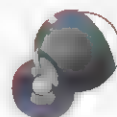
2 This takes care of the centre of the image, but there are still areas above and below the text that could be used. Create another layer and select the Brush Tool. Choose a brush size of around 5 pixels, leave the fill colour as black and click in the top-left corner of the image. Then, with the [Shift] key held down, click in the bottom-right corner to create a diagonal line between the two points.



3 Draw another horizontal line running from the top-right to the bottom-left corners. Then, still in the new layer, create a selection around the text, and delete the intersection of the lines to leave your text legible. Link the new layer with the layer containing the text, and use the Layer > Merge Linked option to rasterise the text and group the two layers together.



4 If you now reduce the opacity of the watermark layer to around 20% you'll find that the image is suitably defaced, but is still recognisable. The text also remains legible, so if you use your email or web address you can be sure that anyone viewing your images will be aware that you're the photographer, and will be able to get in touch with you.



Optimised_tulip.jpg

The `optimised_tulip.jpg` file on the CD is the result of the walkthrough in which we processed the larger `tulip.tif` file for online use. Although the size has been reduced using the Save For Web tool you can see that the image is more than adequate for indicating the quality of the original image.



Tag your images

You may be nervous about using your email address as a watermark, in which case use your web address. You may also be thinking that you don't need to use a unique watermark if your images are to be displayed on your own site, but an image, watermark and all, can easily be copied and passed off as someone else's work if you use a generic icon. Using something as specific as your email or web address will link the image indisputably to you.

PHOTOGRAPHIC MONTAGE TECHNIQUES

Use your images in a creative and unusual way by taking elements from one or more different photographs and juxtaposing them to create your own unique compositions

So far we've looked at how you can correct, enhance, save and share your images, and printing out a photo, or uploading it to the web, will for many people be the end of the story as far as Photoshop is concerned. However, there are a growing number of more creatively inclined users of the software who, rather than regarding their finished photos as the end of the process, will want to use them as the basis for more ambitious projects.

Imagine the scene...

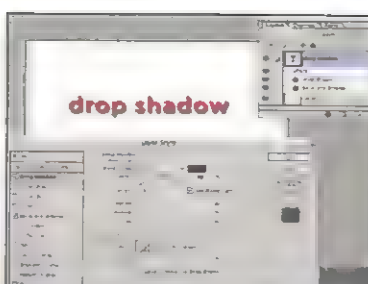
The act of creating a photo montage using elements taken from multiple images is known as compositing.

There's more than enough subject matter on creating photo montages to fill an entire Focus Guide, but in this chapter we'll give you all the tips and techniques you need to master the basics. So, whether you want to create a fantasy scene by scaling up your pet rabbit to make it the size of a person, or just want to add a more interesting sky to a landscape photo, we'll show you how to do it over the following pages.

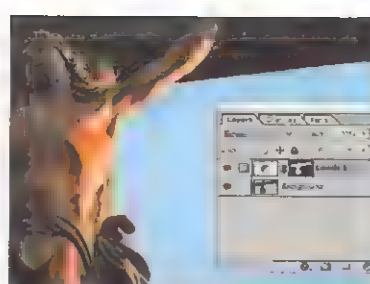
The great thing about creating photo montages is that what you can create is limited only by your imagination – virtually anything is possible. If, for example, you can visualise a surreal scene in which



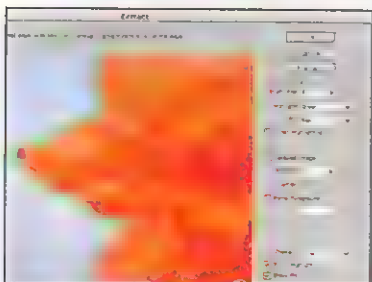
Page 101 Isolate your images the safe way, by using masks to hide pixel content



Page 102 Familiarise yourself with the different layer types, and with layer styles



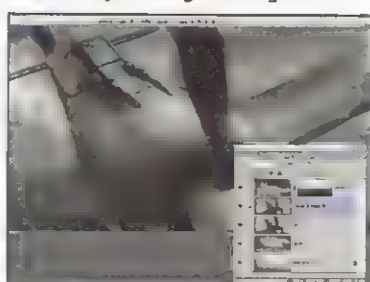
Page 104 Create subtle transitions between layers using blending modes



Page 105 Isolate more complex shapes using the Extract tool



Page 106 Use the Extract tool to give a photo a more interesting backdrop



Page 107 Allow your imagination to run riot as we create a multi-image composite

your child becomes a giant and climbs King Kong-like up Big Ben, then there's no reason why you can't put together such an image with the help of Photoshop.

Convincing composites

Naturally, you'll need to plan the composition carefully and capture suitable source material, taking particular care to match up the camera angles between different shots to ensure consistency when the images are merged. Another important aspect of compositing that's easily overlooked is the direction of the lighting in the source images. For example, if

your shot of Big Ben was taken when the early morning sun was shining brightly from the east, you don't want the light to be shining from the opposite direction in the picture of the child. This is one of the most common mistakes that novice compositors make, so remember to take lighting into account if you want your montages to look convincing – however far-fetched the scenario.

Now read on, as we take a look at methods of selecting, isolating and blending together different image elements, and you'll soon be creating all manner of weird and wonderful composites.

Creating selections

Before you can piece elements together you'll need to extract them from their original images



Marching ants

Whichever method you use to make a selection, you'll find that the selected region is surrounded by an animated dotted line, commonly referred to as 'marching ants'.

Photoshop provides a powerful array of tools for selecting specific regions of your images, from the basic Marquee and Lasso options to the more configurable Magic Wand, which makes selections based on colour. In addition to these tools, you can make use of masks and paths to define selected areas, and you can also call on the Select menu, which contains many time-saving features; the Similar option is great for quickly selecting similar hues in an image, while the Inverse option will invert a selection. Familiarise



The Magnetic Lasso provides an effective method of making complex selections quickly, by snapping to an image's edges

yourself with the various different tools, and making selections will quickly become second nature.



Advanced selections

When using any of the selection methods that create a 'marching ants' border you can add further areas to the selection by holding down the [Shift] key; holding down the [Alt] (Windows) or [Option] (Mac) keys will enable you to remove areas from an existing selection.

SELECTION METHODS

THE REGULAR MARQUEE tools – Rectangular, Elliptical, Single Row and Single Column – offer the most basic selection options. The tools can be configured using the settings available in the options bar.

THE LASSO tools provide a freehand method of creating selections, and are most effective when used with a graphics tablet. The Magnetic Lasso Tool is particularly effective for selecting complex shapes.

THE MAGIC WAND is used to make selections based on colour. Raising its Tolerance setting will increase the range of hues that will be included in the selection.

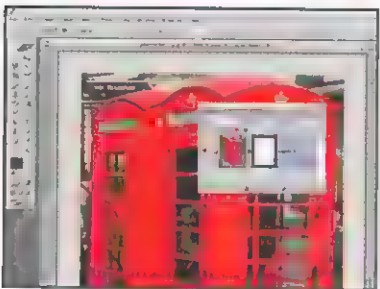
QUICK MASK mode is accessed using the option below the default colour swatches in the toolbar. In this mode you can use the Brush Tool to paint on to your image to create or edit your selection; when you return to Standard Mode your brushstrokes will be replaced by marching ants.

Working with masks

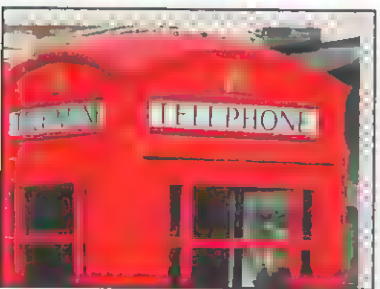
Deleting content is destructive, but by using masks you can simply hide unwanted areas



Open the `phonebox.jpg` file from the CD. The background detracts from the subject but, as we're not sure if we'll need elements of the background in the future, we don't want to delete any areas, so we'll create a mask. Double-click on the Background layer to make it a regular image layer, and click the Add a mask shortcut icon at the foot of the Layers palette.



The mask is currently filled with white, as you can see by looking at its icon, which means our entire image is visible. Click on the icon to activate the mask, and select the areas around the phone boxes with the Rectangular Marquee Tool; hold down the [Shift] key to add to the selection. When you're finished fill the selection with black, and you'll see how the mask hides the perimeter of the image.



Use the **Select > Deselect** option to remove the initial selection, and switch to the Magnetic Lasso. Carefully drag the tool around the edges of the phone boxes; don't worry if you aren't too neat, as we can adjust the selection later. Then use the **Select > Inverse** option to select the background, and fill the selection with black to remove the remainder of the background.



You can use the same process to remove the background detail visible through the windows of the phone boxes. Once you've removed the majority of the background, you'll need to tackle any missed areas where bits of background remain, or restore any bits of the phone boxes you've accidentally erased; select the Brush Tool, and paint black to remove detail, or white to bring it back.



Phonebox.jpg

Use the `phonebox.jpg` image from the CD to work through the steps on this page. The image features a pair of traditional red phone boxes, but the background is too busy, so we're going to remove it.



Masks from selections

An alternative approach to creating a mask is to make one from an existing selection. If you click the Add a mask shortcut icon with a selection active you'll automatically hide any areas that fall outside the selection.

Managing layers

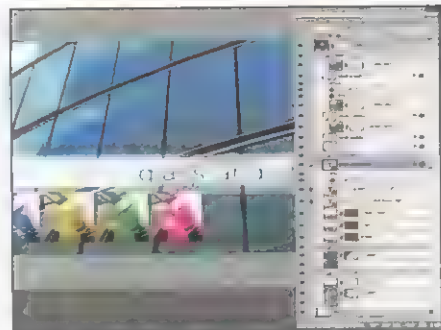
You may think you know your layers, but do you know a vector layer from the adjustment variety?



Composite

The term composite refers to an image that's built around multiple independent layers that are tied together to create the completed image. These layers could contain large sections of your image, or just the smallest detail.

Much of Photoshop's power and flexibility comes from its support for layers, but there's more to this feature than you might think. When you open an image, you'll find that it contains a simple Background layer, to which very little can be done. However, if you change it to a regular image layer, you'll find that all manner of tools and commands suddenly become available. Layers were introduced into Photoshop in version 3, and since then a number of new layer types have been introduced. Our



If you're working on a complex graphic design project the number and range of layers you use can soon mount up

guide to the key layer types will help you to understand what's going on in the all-important Layers palette.



Organising layers

The more complex your work is, the more layers will be involved. Keeping on top of 10 or even 20 layers isn't too much of a problem, but when your layout runs into the hundreds you'll be reaching for the aspirin. Layer sets can be created using the Layers palette shortcut icon; these act as layer folders, so you can group together related layers to make your work more manageable.

COMMON LAYER TYPES

THE BACKGROUND LAYER is the fundamental layer that constitutes any digital photograph. In its basic form it's not possible to apply many common effects that involve the removal of content.

DOUBLE-CLICKING on a Background layer gives you the option to convert it into a regular image layer, which you can edit as necessary.

VECTOR LAYERS were introduced to contain text. Their function has since been expanded to support vector shapes as well.

LAYER MASKS link to an image layer to create a template that determines which areas of the parent image are visible or hidden.

ADJUSTMENT LAYERS, which we looked at in Chapter 5, are unique in that they don't actually contain any pixel data, but are used to apply adjustments to underlying layers.

Working with layer styles

A host of effects can be added to your layer content, from drop shadows to glows

Newer versions of Photoshop support another powerful feature in the shape of layer styles. These include many features that designers make use of, such as shadows, glows, bevels and overlays. Apart from being easy to apply and customise, they have a distinct advantage in that they will never alter the pixel content of your image. Like adjustment layers, layer styles were developed so that you could easily make subsequent changes to applied styles, or even remove them completely, to revert to your original



Clicking on the Layer Styles shortcut icon at the foot of the Layers palette will reveal the various options available to you

layer content. They're applied to a layer through the shortcut icon at the foot of the Layers palette.



Duplicating layer styles

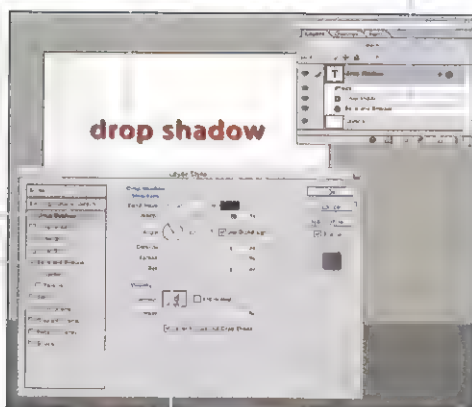
You may spend some time developing complex combinations of layer styles that you then want to apply to related layers. Rather than recreating the settings, simply drag the attached Effects you've already created to the relevant layer to duplicate them.

CONTROLLING LAYER STYLES

You'll see your results instantly on the main canvas. Don't forget you can change, hide or delete layer styles at any time without affecting your original content.

You can double-click on an existing layer style to edit the attributes of that style through the Layer Style dialog box.

The left-hand side of the dialog displays the available styles. Any styles that are associated with your current layer are marked with a tick.



Any layer styles that have been created are associated with the layer by appearing indented below it, under the Effects heading.

Although they can be created via the Layer menu, the quickest method of creating layer styles is through the Layers palette shortcut icon.

The available settings will change depending on the layer style selected; in this example we've selected the Drop Shadow option, so we can adjust the properties of the shadow.

Blending modes

Create subtle transitions between layers, or use one layer to influence the content of another



The full list

A comprehensive listing of the available blending modes is available through the Photoshop Help files. Choose the Help > Photoshop Help from the main menu, or hit [F1] ([Command]+[F] on a Mac), and search for the Selecting a blending mode entry.

You may be familiar with the Opacity slider at the head of the Layers palette but, other than this, you could be forgiven for thinking that there's not very much you can do to create more subtle transitions between your layer content. However, this is far from being the case, as you'll discover if you open the drop-down menu to the left of the Opacity slider.

The options listed here are the various blending modes that you can associate with an active layer. The way in which Photoshop interprets

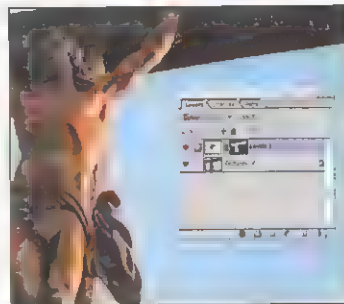
these different blending modes can be quite complex, and even experienced Photographers are often unsure as to which blending mode will be the most suitable for a given task, preferring to opt for those they're most familiar with, or resort to trial and error.

Given the massive choice of available blending modes it would be pointless to list each and every one here, and explain their purpose, when the Photoshop documentation and Help files provide a more than adequate overview.

BLENDING LAYER SETS

Blending modes affect layer sets in a slightly different way

A layer's blending mode determines how its pixel content blends with underlying images to create a variety of effects. In default Normal mode a layer has no blending properties, so any content remains fully opaque, and has no influence on underlying layers. This is also true for layer sets, although the default blending mode is Pass Through. When you select one of the alternative blending modes, you effectively change the order in which the entire image is composited, with all the layers in the layer set being influence first. This set is then treated as a single layer, and blended with the rest of the image using the selected mode.

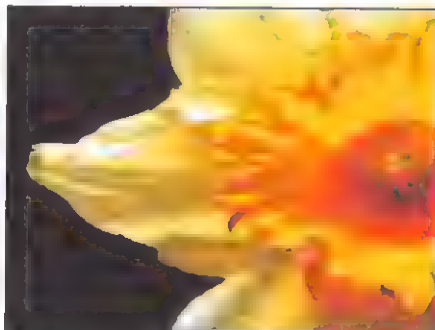


We created a blank adjustment layer and set the blending mode to Screen to lighten this image

Complex selections made easy

Not every object that you want to select will have sharp, clean edges for you to follow

When it comes to extracting an object from its background you'll find that few such objects have a clearly defined outline – a person's hair will cause obvious problems as you try to pick out unwanted elements between the individual strands – and focal blur can further hinder your attempts to make a clear selection. The best way to tackle such jobs is through skilled masking, but this takes time, effort and a fair amount of experience. Alternatively, you could make use of the Extract tool, found under the filter menu,



Previewing your extraction against a background that contrasts with the original will highlight any problem areas

and simply paint over the object you want to isolate before letting Photoshop do all the hard work.



Smart extraction

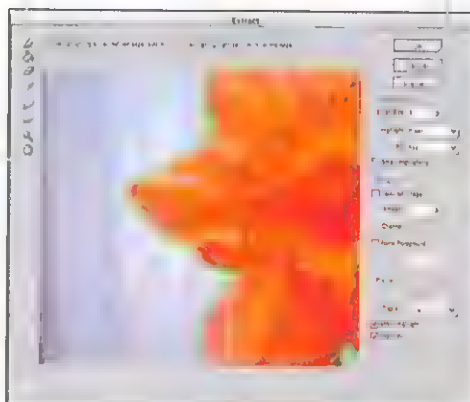
If you use Smart Highlighting to mark object edge detail that falls near to another – unwanted – edge, you'll need to reduce the brush size. If the object edge has a uniform colour on one side and high-contrast edges on the other, keep the object edge within the brush area, but centre the brush on the uniform colour.

THE EXTRACT TOOL

The Extract interface provides a number of tools, the most important of which are the Edge Highlighter, Fill and Eraser tools.

Once you've completed your edge, fill the area you want to keep and preview the extraction. You can continue to make changes until you're happy with the extraction.

Within the main work area you can use the Edge Highlighter Tool to paint over the edges. Choose a suitably sized brush, and paint roughly over the edges.



The tool settings are displayed on the right of the interface, and are headed by options for changing the Brush Size and the Highlight and Fill colours.

The Extraction options enable you to influence how Photoshop recognises edges in an image – for example whether they're textured or smooth.

The Preview settings enable you choose how you view your results. Offsetting the extraction against a contrasting colour will often highlight any problem areas.

Creating a montage

Put some of the theory you've learned into practice to create a simple photomontage



Cows.jpg, scenery.jpg

Use the *cows.jpg* and *scenery.jpg* files to follow this walkthrough. The photo of the cows features intricate but clearly defined edges that will make the extraction process fairly straightforward.



Open the *cows.jpg* file from the CD. The image is of some cows grazing, but the original backdrop is a little uninspiring, so we'll remove it, and replace it with something more dramatic in the shape of the *scenery.jpg* file. As the fur on the cows creates complex edge detail we'll use the Extract filter, so launch the tool by selecting **Filter > Extract**.



Select the **Edge Highlighter Tool**, and set the **Highlights** option to **blue**. Set the brush size to around 15 pixels, and paint around the edges of the cows. Take care to include areas of background such as that between the calf's legs, reducing the brush size if necessary. When you're done, configure the **Fill Tool** to apply **red** and click somewhere within the cows and grass.

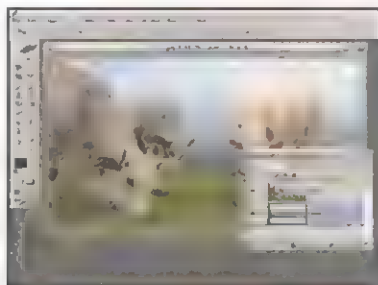


Perfect edges

You don't need to be too precise when outlining objects using the Extract filter. Just make sure that the brush is of a suitable size to cover a little of the subject and a little of the background, and Photoshop will run all the calculations necessary to extract the subject.



If you now click the **Preview** button you'll get some idea of how well your extraction will render. Should you need to make further changes, check the **Show Highlights** or **Show Fill** buttons to adapt your settings, before clicking **OK** to confirm the extraction; you'll now see the image in the main Photoshop interface, with the background removed.



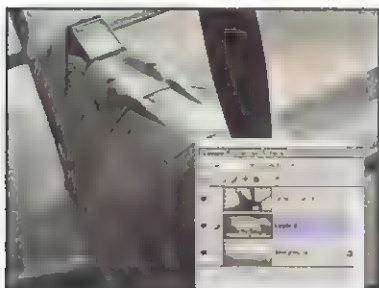
All that's necessary now is to insert the new background. Open the *scenery.jpg* file, and drag the existing background layer on to the extracted cows image. Revise the layer stacking order so that the cows come back to the foreground of the image, and position the backdrop to complete the composite.

Creative composites

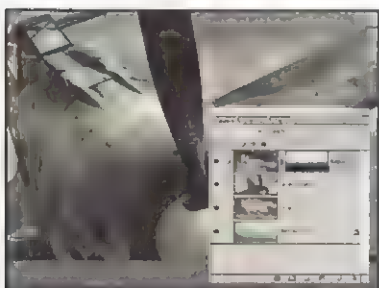
Take the montage concept further, and create a scenario using elements from multiple images



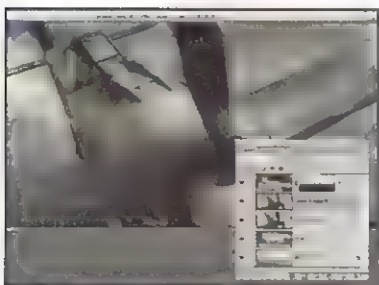
We've done some selection work to create the plane.psd image you'll find on the CD, except on this occasion we used the Pen Tool to create paths around the plane, as this provided the most accurate method of isolating the subject. Use the plane.jpg file if you want to attempt the same extraction yourself, or use the plane.psd for a head start. Open the clouds1.jpg and clouds2.jpg files.



Drag the clouds1.jpg image layer on to the plane.psd, and position the layer between the plane and the background. This overwrites the original background, but if you change the blending mode to Darken and reduce the Opacity to around 40%, you'll see how this brings back the original background, and creates the impression that the plane is flying above the clouds.



Next, drag the clouds2.jpg on to the composite, and position this at the top of the stacking order. This obscures the composition, but changing the blending mode to Overlay helps to suggest that the plane is emerging from the clouds. The blue sky is tinting the lower half of the image, but a simple gradient mask will soon remove this.



Duplicate the layer containing the plane, and select the upper version. Go to Filter > Blur > Motion Blur, rotate the angle of the blur to match the direction of the plane, apply a generous Distance setting of around 100 pixels and click OK. Reduce the opacity to 60%, and our museum-bound fighter plane is suddenly the centrepiece of a dramatic action shot.



Image layers

Various images are used in the creation of this composite. You'll find the necessary plane.jpg, scenery.jpg, clouds1.jpg and clouds2.jpg on the CD, as well as the planes.psd file, which bypasses the steps we've already covered in the previous walkthrough.



Aligning layers

When you drag a layer from one file to another, a duplicate layer is automatically created in the target image; however, its position depends on where the layer was when you released the mouse button. If you hold down the (Shift) key while dragging the file over you'll find that your new layer is automatically centred on the target image.

PUTTING YOUR PHOTOGRAPHS ON SHOW

In this chapter...

REPAIRING
process of cleaning up
a typical photograph

EXPORTING
using Photoshop's
automated controls

PRESENTING
via PDF slide show

PRESENTING
via iPhoto

In this final chapter, find out how to make the most of a typical photograph, and how to display and promote your work in the form of a contact sheet and an online gallery

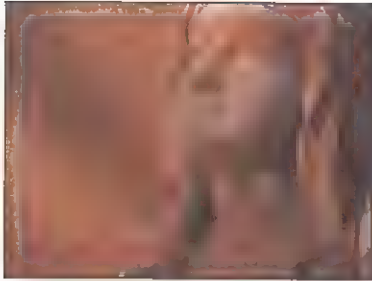
Every photograph is unique, and each one will require different treatment to produce the image that you envisaged when you pressed the shutter release. Of course, the more experienced you are, the more adept you'll be at configuring your camera for a particular shot, so the less editing will be required, but we can't all be David Bailey, and many photographers still have to put their faith in the 'best guess' setting that's dictated by their cameras.

Having said that, much of the satisfaction that you can get from photography comes from the fact that you don't necessarily need to be a great artist to get great results.

Simply being in the right place at the right time can often mean that you capture wonderful images of people and places, and record moments that would otherwise be lost for ever, and, if your camera fails to do full justice to these pictures, then you can create the perfect image in Photoshop.

Put it out there!

Having enhanced your photos, the next step is to put them on show. Most people will want to share their collection with others, while more ambitious snappers may want to make some money out of their hobby, in which case they'll want to actively promote their work.



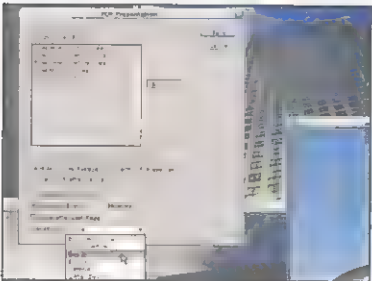
Page 110 Take a photo with typical light and colour balance problems...



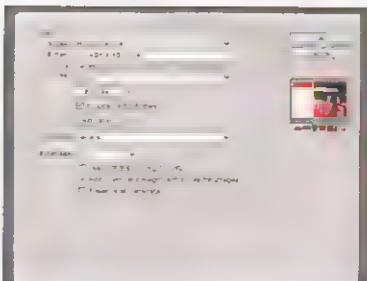
Page 112 ...and transform it to create a well-balanced and effective image



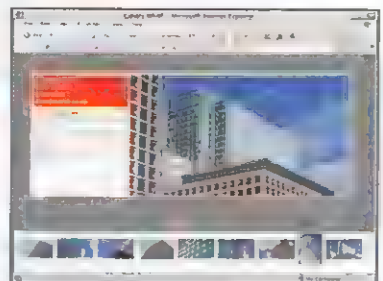
Page 114 Use Photoshop's automated features to design a contact sheet



Page 116 Put together a slideshow using the Adobe Acrobat PDF format



Page 118 Create a web photo gallery using Photoshop's automated tools



Page 120 Configure your gallery to produce professional-looking results

With all this in mind, we're going to use this final chapter to run through the various steps involved in processing a typical photo, giving you some suggestions along the way as to how you might improve your images with a little creative thinking. We'll then run through the process of creating a contact sheet, so that you can put together your very own hard-copy portfolio should you attempt to turn your hobby into a commercial sideline. You won't need too many design skills for this, as Photoshop provides all the tools necessary to automate the process. The same is true if you want to create an online photo gallery, and

whether you choose to use the web to promote and sell your photos, or just to share your images with family and friends in faraway places, is entirely up to you.

Keep on learning

Photoshop was originally developed with the photographer in mind, and having worked through this Focus Guide you should have a better idea of how you can use the application to make the most of your images. No doubt you'll discover many other techniques and tricks as you become more experienced, so don't be afraid to experiment, and, most of all, have fun with your photos!

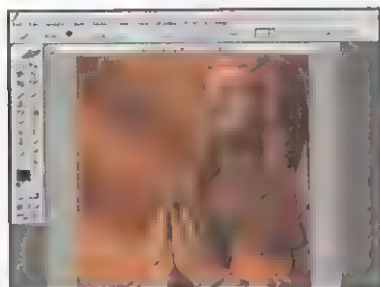
Balancing an image

Use the techniques you've learned to clean up an image, and bring out muted detail

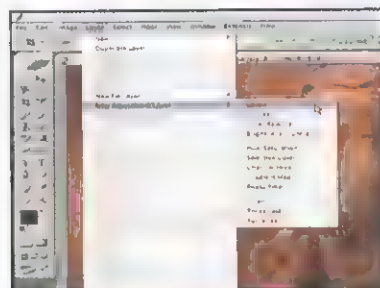


Madonna.jpg

Use the *madonna.jpg* file to follow the steps on this page. The image is nicely composed, but is let down by poor light balance, due to metering problems created by the camera's automated settings



Open the *madonna.jpg* from the CD for a well-composed shot of a statue. The shadows add some interest to the image, although the background wall, with its similar textures and colours, will distract the viewer from the main subject. To fix this we'll need to adjust the light balance, before deciding on how best to focus attention on the statue.

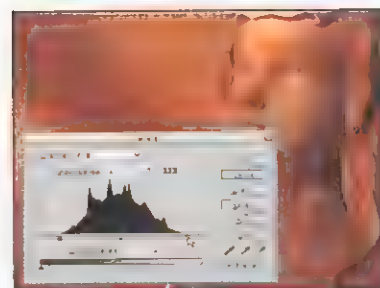


To start with, let's get the light balance sorted. To do this we're going to employ Photoshop's Levels command but, as we'll be making subsequent changes to our image, we may need to revise the settings, so rather than head to the Image > Adjustments > Levels option we'll use an adjustment layer. Choose the Layers > New Adjustment Layer > Levels option to bring up the dialog box.

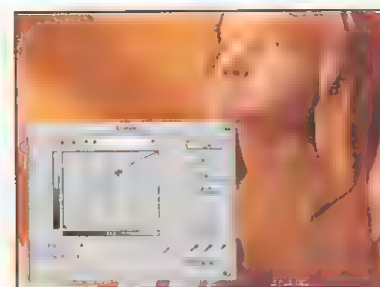


Temporary adjustments

When you're experimenting with different adjustments, it's recommended that you make use of adjustment layers, rather than apply the changes through the Image > Adjustments sub-menu, so that you can adapt your settings as you make further changes to the image.



The image's histogram is neatly contained within the preview area. However, for the levels to be at their optimum they need to be expanded, so that the black and white points meet the equivalent output levels. To achieve this drag the extreme anchor points so that they bracket the histogram; we also lowered the midpoint slider to reduce the intensity of the image's more neutral tones.



Although the levels adjustment has improved the image, it's still looking a little too saturated, which detracts from the detail. Create another adjustment layer, and this time select the Curves option. If you now click about two-thirds of the way up the diagonal line in the Curves dialog settings, and drag this point upwards slightly, you'll see how the image begins to brighten.

Correcting light and colour

We can also use the Curves command to adjust the light balance and alter colour content



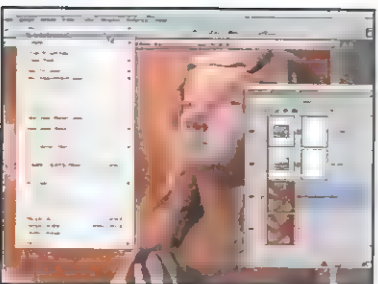
5 We're now starting to lose a little detail from the darker areas of the image, as the curve adjustment has raised the entire image's levels. To counter this, click on the curve about a third of the way from the bottom, and drag the point down slightly. This will create a shallow S-shaped curve, which will give a subtle boost to both the highlights and shadows of your image.



6 Don't close the Curves dialog just yet. The light balance may have been improved, but there's still a dominant red tone in the image, so select the red channel from the drop-down menu at the head of the Curves dialog and drag the line downwards. How much you drag, and at which point, is up to you, but you can easily vary the adjustment, and move the point up or down the curve.



7 Similarly, increasing the Blue channel will further counter the unwanted colour tint. We chose to reduce the Red channel towards the lower part of the curve, to reduce saturation towards the darker regions of the image, while boosting the Blue channel at the higher part of the curve to exaggerate that hue towards the brighter end of the light range. Click OK to render the adjustment.



8 The next issue to address is that of the background. The wall is as sharp as the statue, but we can easily resolve this through blurring and masking. Duplicate the Background layer by selecting the layer and going to Layer > Duplicate Layer; the duplicate will appear directly above the base layer, and will still be influenced by the Levels and Curves adjustment layers.



Contrasting channels

In the RGB colour spectrum, the opposing colour to pure red is a blend between the Blue and Green channels. This secondary colour has visual properties nearer to blue than green, so boosting the Blue channel as a method of reducing the appearance of red will involve less alteration to the image's indexed colours.



Quick duplication

A quicker method of creating a duplicate of the currently selected layer is to use the [Control]+[J] (Windows) or [Command]+[J] (Mac) key combination. You can also duplicate your layers through the Layers palette menu, but the keyboard shortcut is quicker.

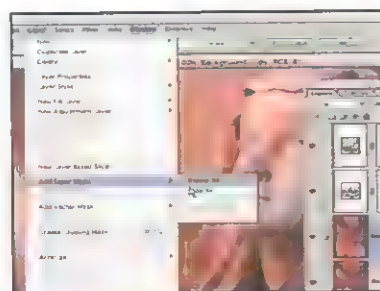
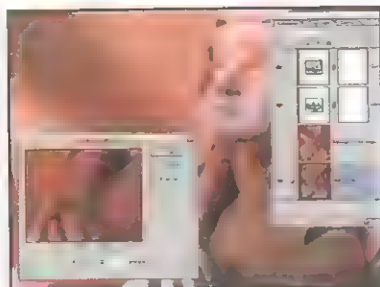
Blurring the background

Fake some depth of field in the image, so the foreground subject becomes more prominent



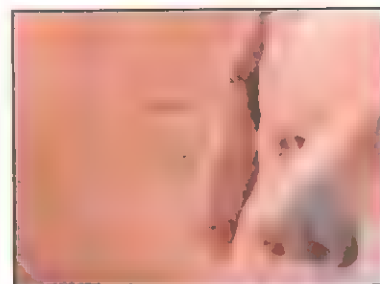
Adding masks

The Layers palette provides a more immediate method of applying masks to currently selected layers than the menu option: the icon at the foot of the palette that features a white circle within a grey square is the Add a mask shortcut.



Patching masks

As masks remain an unseen element, it can be all too easy to miss areas. However, if you hold down the [Alt] key (Windows) or [Option] key (Mac) and click on the mask thumbnail you'll see it render as a greyscale image, which makes it much easier to see any patches you may have missed.



Hide the new layer by clicking on the eye icon, and select the original background. Run the Gaussian Blur filter, and blur the image to a radius of 3 pixels to soften the detail in the entire image and create an out-of-focus effect. OK the settings, and click back on the duplicated layer to make the sharpened version of the image visible again.



Of course, this layer now hides the blurred version below it, so we'll need to remove the sharpened background to reveal the underlying image. But, rather than delete the pixel content, add a layer mask to the sharpened layer using the Layer > Add Layer Mask > Reveal All option.



Select the layer mask by clicking on its thumbnail. Due to the similarities in the foreground and background colours, selection tools such as the Magic Wand or Magnetic Lasso won't be too effective; instead, use a generously sized brush to paint black on to the larger areas of the background; you'll see the blurred layer begin to reveal itself.



Complete the effect by reducing the brush size considerably, and magnifying the image so that you can carefully paint up to the edges of the statue. As we're working with masks, don't panic if you accidentally paint over the foreground, as you can easily load the brush with white and paint back these areas.

The final image

Compare the original and revised images to see how just a few changes make a huge difference

By making just a few carefully targeted adjustments, we've completely transformed our photo. Of course, each image you work on will require different enhancements, and as you gain experience you'll be able to tell what needs to be done to a particular image just by looking at it. In addition to cleaning up photos, you might choose to take things even further by experimenting with Photo Filter adjustment layers, to create a sepia-tinted image or apply a gradient map that gives your image an alternative range of colours. By



Here's the original image, which had good composition but was let down by poor light and colour balancing, and a lack of focus

making use of duplicate layers and blending modes you'll find the possibilities are virtually endless.



Madonna_final.jpg

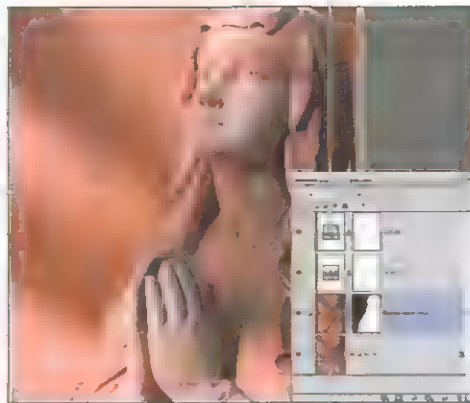
Compare the 'before' and 'after' shots by checking out the `madonna.jpg` and `madonna_final.jpg` images on the CD. Your version may well look different to ours, as the amount of adjustment and blur applied is entirely at your discretion.

A BETTER LIGHT

The Levels adjustment ensured an even distribution of tones in the image, with bright and dark regions covering the full tonal range.

With the background blurred, the viewer's eye is naturally drawn towards the statue.

Channel adjustments removed the red colour cast, and created a more naturally textured finish.



Making use of adjustment layers enabled us to fine-tune our adjustments without compromising image quality.

A layer mask was introduced so that elements of the sharp image could be removed to reveal the blurred background.

The original background was copied, so that we could apply a blur to one version while retaining a copy of the sharp image.

Producing a contact sheet

Let Photoshop do all the hard work for you as we create a hard-copy preview of your photos



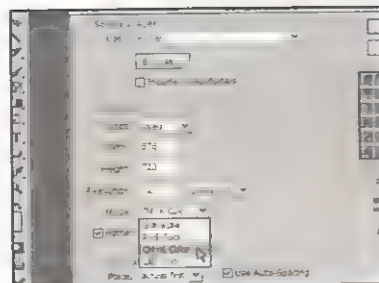
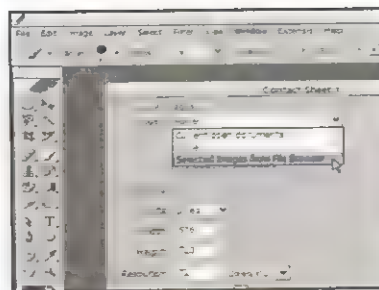
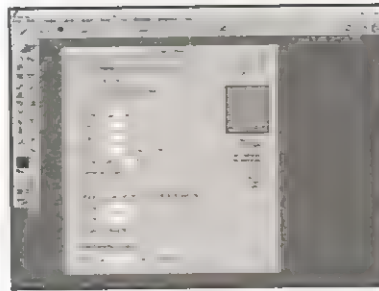
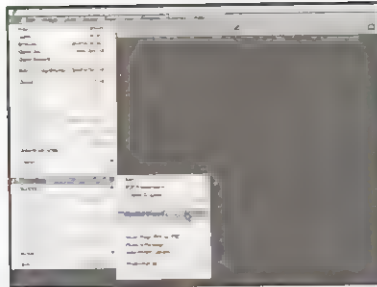
Multiple selection

If you choose to base your contact sheet around images displayed in the File Browser, you'll need to know how to select multiple files. Ordinarily, if you select one file and then click on another, your initial selection will be automatically cancelled, but if you hold down [Control] (Windows) or [Command] (Mac) while clicking on individual thumbnails you'll find they all remain active.



Keep your layers

If you leave the Flatten All Layers option under the Document settings unchecked, you'll find that you can easily move the individual thumbnails that constitute your contact sheet around. This will enable you to change things if Photoshop doesn't lay out your shots in the way that you want.



The File Browser is great for previewing your images, but it doesn't provide the most practical solution if you want to show your images to a potential client. For such a task, photographers have traditionally relied on a contact sheet, which provides thumbnail representations of a number of images. Photoshop provides all the tools you need to create one under the File > Automate menu.



You don't need to have any images open to access the tool, although there is an option to create a contact sheet using only open images. Once you've selected the Contact Sheet II option from the Automate sub-menu you're presented with all the controls necessary to determine which images should be included, and to configure the layout of the sheet.



The initial setting specifies the location of source images. Using the drop-down options at the head of the interface, you can choose between currently open images, an existing folder, or selected images within the file browser. If you choose an existing folder then you'll need to make use of the Browse option to locate the relevant directory, and decide whether to include any sub-folders.



The next group of settings control the dimensions and resolution of the contact sheet itself. Choose your preferred unit of measurement before making any changes to the width and height dimensions. The default 72dpi resolution and RGB colour mode are adequate for on-screen display, but if you intend to print the sheet you may want to change these settings to 150dpi and CMYK.

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If ink and paper costs are an issue, you can select the Rotate For Best Fit option under the Thumbnail settings. This will ignore the orientation of an image, and position the thumbnails in such a way that you'll get more on the page. However, this will mean that some images are on their side.



Breathing space

A collage of 15 small photographs showing various scenes from the movie 'The Untouchables'. The photos are arranged in a grid-like fashion, with some overlapping. The scenes include:

- Top left: A man in a suit (likely Alvin Karpis) in a dark setting.
- Top center: A man in a suit (likely Alvin Karpis) in a dark setting.
- Top right: A man in a suit (likely Alvin Karpis) in a dark setting.
- Middle left: A man in a suit (likely Alvin Karpis) in a dark setting.
- Middle center: A man in a suit (likely Alvin Karpis) in a dark setting.
- Middle right: A man in a suit (likely Alvin Karpis) in a dark setting.
- Bottom left: A man in a suit (likely Alvin Karpis) in a dark setting.
- Bottom center: A man in a suit (likely Alvin Karpis) in a dark setting.
- Bottom right: A man in a suit (likely Alvin Karpis) in a dark setting.



ADOBE PHOTOSHOP FOR PHOTOGRAPHERS - FOCUS GUIDE | 115

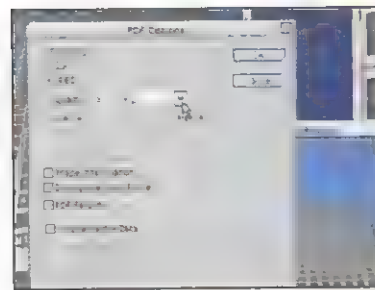
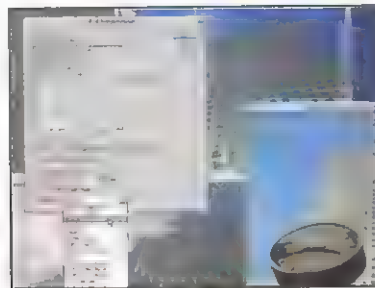
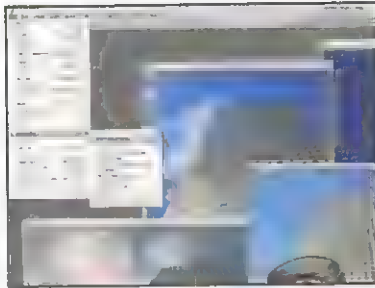
Create a PDF Presentation

For a more dynamic alternative to the contact sheet, why not create a PDF slide show?



CanaryWharf.pdf

Check out the *CanaryWharf.pdf* file on the CD for a sample of how the PDF Presentation option can show off your images.



Acrobat reader

To be able to view PDF files, the user will need to have the Adobe Acrobat reader software installed on their computer. This shouldn't present too many problems, as the vast majority of computers have this installed as a matter of course, and anyone that doesn't have it can easily get hold of the free software from the Adobe website.



If you fancy something a little more interesting than a contact sheet, you might want to consider the PDF Presentation option. This creates an PDF slide show that can be viewed on screen, with your images automatically displayed in order, complete with transitions. Open a selection of images and choose **File > Automate > PDF Presentation**.



We suggested opening some files first, as the PDF Presentation dialog box includes the option to **Add Open Files**, which makes the task of selecting images much easier than browsing through your system files. Check this, and choose the **Presentation** output option. You can choose the time after which your images should refresh and whether they should loop, and opt to include transitions.



When you're happy with the settings, hit the **Save** button, and enter a filename and location to which your processed PDF file will be saved. You're then presented with options for encoding your file; choose the **JPEG** option and set the compression slider accordingly, bearing in mind that too much compression will create noise in your images.

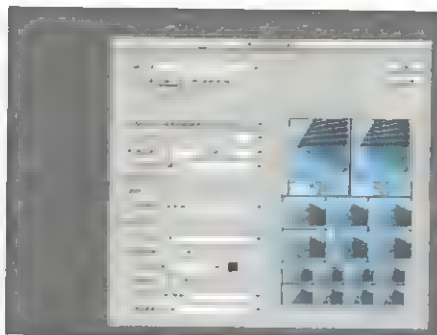


Click **OK**, and Photoshop will process the PDF file invisibly in the background; this may take a little while, depending on the number of files involved and their size. You'll be able to distribute the presentation via CD.

Leave it to Photoshop

Take advantage of some of the other features found under the File > Automate sub-menu

The File > Automate menu has other features in addition to the contact sheet and PDF Presentation options. One of the most powerful automated tools is batch processing, which enables you to process entire folders packed with images using one of the many Actions available to Photoshop. Elsewhere, the Picture Package option will automatically create a page layout based on one or more images, while the Crop and Straighten Photos command does exactly that. Photomerge is a powerful tool that originates from



The Picture Package option enables you to position your images using various predefined page layouts

Elements, and enables you to splice together two or more images to form panoramic montages.



Using droplets

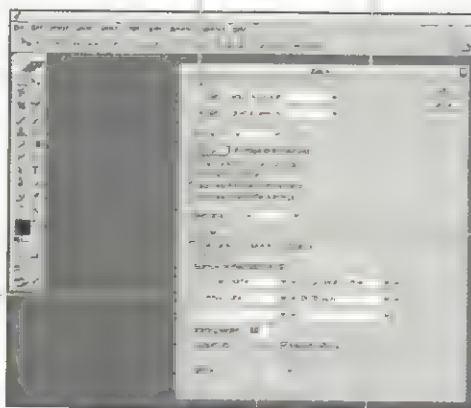
Like actions, droplets are effectively a sequence of commands that you define. However, you can save droplets to any location, such as your desktop, so you can simply drag the droplet icon over selected image files to instigate the relevant process without opening Photoshop.

UNDERSTANDING BATCH PROCESSING

When configuring files for batch processing, your first task is to specify which of your existing actions you want to apply to your images.

If you choose the Folder option, you can create some potentially complex naming conventions to help you identify your files.

Opting to Stop for Errors enables you to fix a problem as your files are being processed. The alternative is to log errors into a file, but this could lead to problems if Photoshop hasn't gauged the problem correctly.



You'll need to specify the source where your images are located. The options are Folder, Import, Opened Files and the File Browser.

The Destination option enables you to specify whether the processed files will overwrite themselves, or be targeted to another folder.

Your system is checked under Compatibility by default, although checking the remaining options will ensure that your files remain universally accessible.

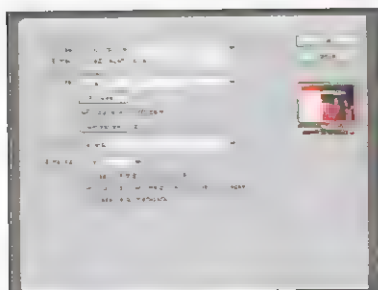
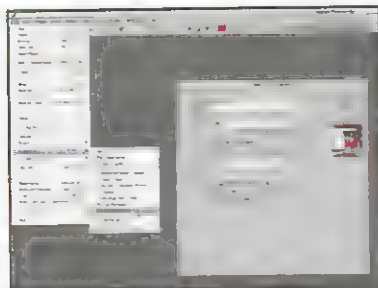
Images on the web

You won't need to know a single line of HTML to create your own online photo gallery



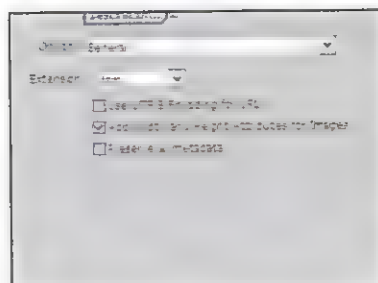
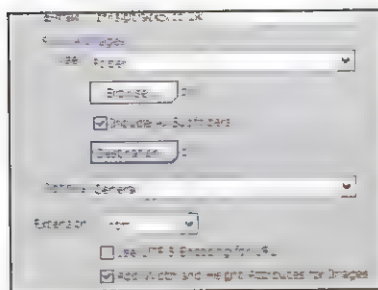
Different style, different options

We chose the Horizontal Gray style to create our gallery. We'd recommend that you use the same style to follow the steps on this page, as each style has its own particular options.



A different destination

When you're deciding on the destination for the processed files, it's strongly recommended that you create a new folder, and don't place your assets in the original source folder. This way you can be sure that the folder you eventually upload will only contain the processed images, and not the huge originals, which would take a very long time to upload, and even longer to download by your audience.



The best way to showcase your images to as wide an audience as possible is to put them online, but for many photographers the prospect of creating a web gallery will be daunting. Again, Photoshop comes to the rescue with the File > Automate > Web Photo Gallery option. There are a few things you'll need to consider as you create your gallery, but you could have your images online in an hour.



The first thing to decide is the style for your gallery. Use the Styles menu to preview the various options, which are displayed on the right-hand side of the Web Photo Gallery interface. Here we've settled on the Horizontal Gray option, and entered an email address in the relevant field.



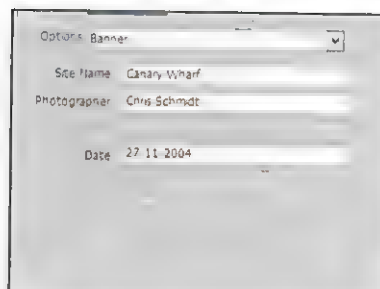
The Source Images section is fairly self-explanatory; you can choose to use a specific folder, or images selected within the File Browser. We've chosen the Folder option, and specified the folder containing our original images, before choosing a different folder in which the completed html and graphics that comprise the gallery will be stored.



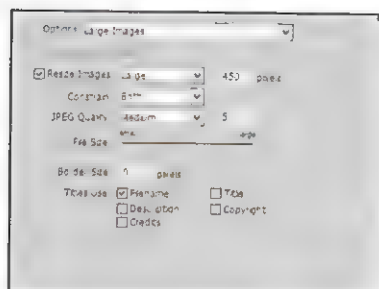
We can now begin to make more specific changes to our site's Options. By default, the General option is selected, and this can be left as it is. The .htm Extension option will ensure less problems for users with older operating systems, while including width and height attributes will mean that your pages will be laid out more quickly on systems with slower connection speeds.

Gallery options

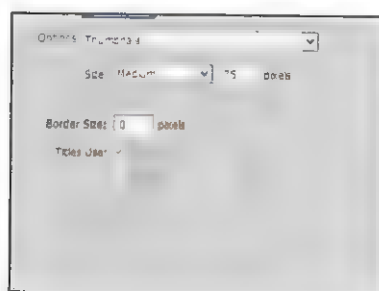
Continue configuring the Options to add content and descriptions to your gallery



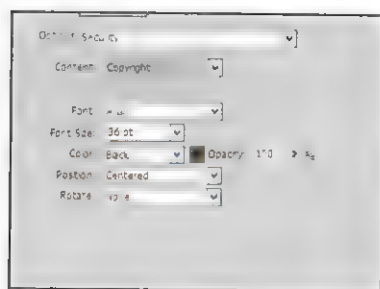
5 Next, return to the Options menu and select **Banner**. Add your Site Name, and your own name in the Photographer field. Because of the nature of our chosen layout, the Contact Info and Font details are unavailable; we can change these later, but for the time just change the date if you want to.



6 The next Options category to configure is **Large Images**. As your original images will no doubt be too large to use online, check the **Resize Images** option and choose an appropriate size, with the **Constrain** option set to **Both** so the images scale evenly, and set **JPEG Quality** to medium. Decide if you want to include a border, and specify which property your image's titles are to be based on.



7 The next Option to configure is **Thumbnails**. The **Medium** size option is big enough to give some indication of your gallery's content without taking up too much layout space, or demanding too much download time, and leaving the **Border** set to 0 will keep the design clean. Limitations to our chosen style mean that the other options are already predefined.



8 The next option, **Custom Colors**, enables you to change the design colours for your site; only the **Banner** option is accessible for our chosen style, and we've set this to orange. Finally, select **Security**; the options here for copyright, credit information and so on are self-explanatory.



Borders

If you do choose to add a border to your images, be warned that this will be rendered through HTML. The thumbnail images in particular will look ugly; as they act as links to the border they will be rendered in the default blue link colour. However, you can choose to alter this using the **Custom Colors** option.



Text and background

Take care that the colour you choose for the Banner doesn't clash with or duplicate the colour of the text contained within it. The text for the **Horizontal Gray** style is white by default, so make sure your Banner colour is suitably dark for your text to remain legible.

Completing your gallery

Once Photoshop has created your gallery you can enter information about your images



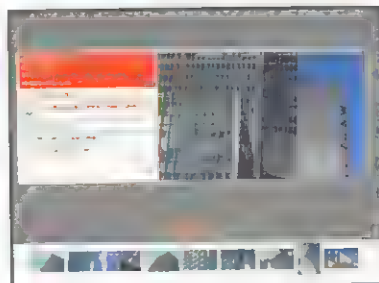
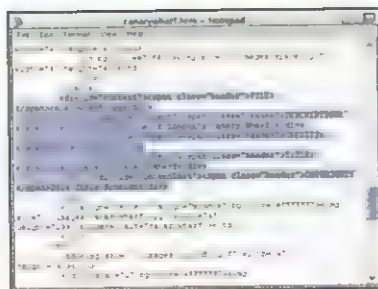
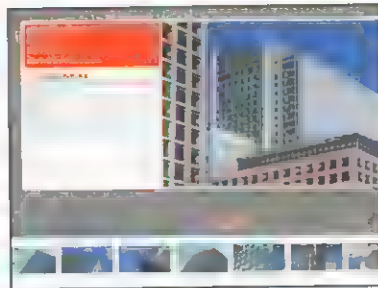
WYSIWYG editing

If you're not confident about editing the HTML using your text editor, you could alter the page content using Word. This has the advantage of enabling you to view and edit the page as if it were in the browser, but Word is notorious for saving poor-quality code, so try to stick with the text editor method to be sure that your gallery runs as smoothly as when Photoshop created it.



Finding web space

The best way to get your own web presence is to register your own domain name, or web address, and purchase hosting space with which you can associate this domain. You can try things out for free using one of the many free hosting companies out there, such as Geocities (<http://geocities.yahoo.com>), although you won't have your own domain, and your site may be subject to advertising.



With the settings complete, you may want to review your configuration, and once you're happy, simply hit OK. You can now sit back while Photoshop opens each of the files to be included in your gallery, and resizes and optimises them before generating the necessary HTML page that will constitute your site. When this is finished, your gallery will appear in your default browser window.



You can use the thumbnails at the foot of the gallery to access images directly, or use the arrow below the main image to move backwards or forwards through your gallery. However, if you take a closer look at the main image window you'll see that fields for information such as the description and credits remain blank. To add this information we'll need to amend the page's HTML.



Open the folder in which your site assets have been saved and you'll find a Pages folder, which contains the pages for the larger images. Open one of the pages in a regular text editor such as Notepad, and scroll through the text until you find the upper case titles, beginning with FILE, to which copy needs to be added. Position the cursor between the and </div> tags to enter your copy.



You'll need to do this for each of your gallery pages, and once you've saved the changes you'll be able to view your completed pages complete with their information. Your pages are now ready for you to upload to your web space, so the world can view your gallery!

Selling your photos

As you develop your photographic skills, you may be able to make your hobby pay for itself!

Throughout this Focus Guide we've provided a range of techniques and ideas that should get you thinking not only about how you process your images, but also about how you might take better photos in the first place. Hopefully, you'll soon find that your photographic skills are moving to a whole new level, and while photography may not be the cheapest hobby to pursue, there's no reason why you can't try to earn a little money back.

Designers are constantly looking out for new and interesting material,

and, as many of them are either too busy to gather their own images, or don't have an eye for a photo, they'll be only too happy to buy your images from you, so long as your stock is of a good enough quality, and they can get in touch with you. Promoting yourself locally with contact sheets, or further afield through an online gallery, will help to boost your profile, but if you want to go after the big money you'll need to think about getting your work featured on one of the many established online image libraries.



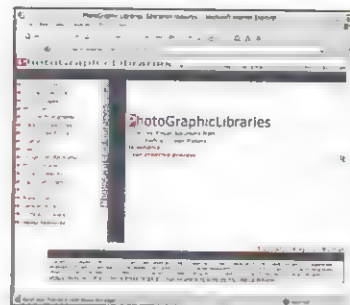
Know your rights

If you do consider applying to an image library, take the time to carefully read any contract you may be asked to agree to. Only when you're happy with the terms and conditions should you think about uploading carefully selected images; a snapshot you happened to take of David Beckham at Heathrow airport could be worth a great deal more than you think.

IMAGE LIBRARIES

Use the clout of established libraries to promote your photos

There's a growing number of online stock photo agencies out there, all keen to tout your images to a global market. If you happen to take images on a specific theme it might be worth searching around for a specialist agency, although the larger agencies, such as Getty (www.gettyimages.com) or PhotoLibrary (www.photolibrary.com), will have a broader user base that you can take advantage of if you can get your portfolio accepted. For more advice, and to get a better idea of whether there's a specialist library that may be looking for the kind of images you take, have a look at the Photographic Libraries website (www.photographiclibraries.com).



PhotographicLibraries.com is a good source of specialist libraries, and of useful links to related resources

On your CD-ROM

Here's how to get the most out of the disc that accompanies your Focus Guide

Featured resources

☐ All the images you need to follow our tutorials

☐ 20 great WZ2K stock images

☐ Exclusive Adobe Photoshop video lessons

☐ Exposure Editor - full product

☐ BlackMagic Business Edition - full product

To access the wealth of resources and software on your disc, first insert the disc into your CD drive in the usual way. Whether you're using a Mac or a Windows PC, the disc will work equally well. If the disc interface doesn't run automatically, look at the facing page to find out how to start your installation manually.

Before you go on

The first item that should appear on your screen is the disclaimer window; here you'll need to click

on 'I Accept'. Please remember that this disc has been scanned and tested at all stages of production, but – as with all new software – we still recommend that you run a virus checker before using any new piece of software. We also recommend you have an up-to-date backup of your hard disk before using this disc. Future Publishing does not accept responsibility for any disruption, damage and/or loss to your data or computer system that may occur while using this disc, or the data and programs on it. Please consult your

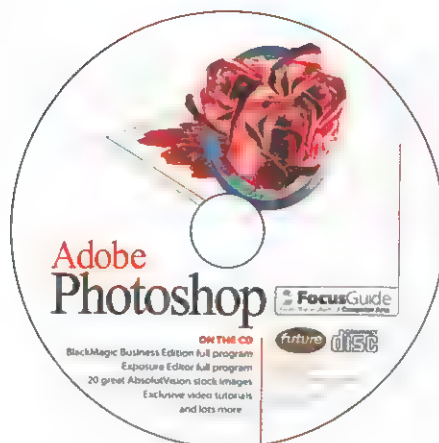
EXPOSURE EDITOR – FULL PRODUCT

An indispensable plug-in for making exposure compensations

Carry out exposure compensation and exposure correction in your photo software using this simple Photoshop plug-in for photo restoration and editing. Exposure Editor is great for general compensation, as well as for compensation in specific areas such as shadows and skies. The plug-in is incredible easy to use, with just four sets of controls. Correct overexposure or underexposure, adjust exposure and compensate for colour loss, target compensation to a brightness range, and target compensation to a colour range. Power Retouche Photoshop plug-ins are also available for Paint Shop Pro, Corel Draw, Illustrator, Fireworks and other graphic and photo editing titles.



You can master the art of exposure compensation with Power Retouche's Photoshop plug-in



network administrator before attempting to install any software on a networked computer.

Installation

Once your CD interface has loaded, you can access any of the files, software and other resources included directly from your CD. Simply click on the animated 'Click' link and choose the section that you're interested in from the menu. The video tutorials require the latest QuickTime Player, from www.apple.com/quicktime/download.

If you have a query about your disc, email our support team at support@futurenet.co.uk for help. If you want to talk to a member of the team, call 01225 822743. Note that we can only provide basic advice on using the disc interface and installing the supplied software. We cannot give in-depth help on specific programs, or on your particular system configuration.



Starting your installation manually

PC users: click on the Windows Start button and click Run. Then click Browse and go to the CD directory in My Computer. Look for a file called PFGI.exe and double-click it. Then click OK in the Run dialogue, and the CD should then load up.
Mac users: Double-click the disc icon, then double-click StartMAC or StartOSX, depending on which OS you're using.

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Add colour to your black and white photographs

We've teamed up with NeuralTek to bring you this fantastic tool, which enables you to colourise black and white, sepia or infrared photos. You can also use it to colour-correct and re-colour photos with dull, faded or inappropriate hues. Creating professional-quality colourised images is simple, and the results are so good images often look as if they were actually shot in colour. With BlackMagic you don't even need to pick colours. You identify the type of object to be colourised, and BlackMagic performs the calculations required. The tool makes full use of 'Time Brush Real Life Colour', which was specifically created for colourising black and white Hollywood movies.



BlackMagic can realistically colourise your favourite photographs at the touch of a button

www.blackmagic-color.com

AbsolutVision stock photos



CD Images

On the CD you'll find special edition sample of 20 images – worth over £1000 – all in low resolution, high resolution or JPEG2000 format. For more on AbsolutVision visit www.absolutvision.com

Check out 20 stunning free images that you can use in your Photoshop projects

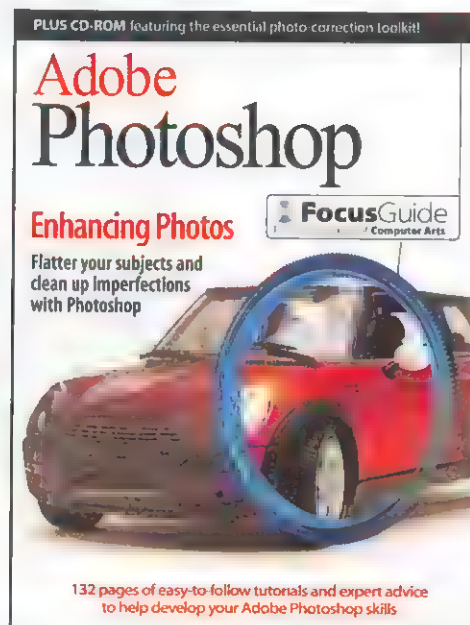
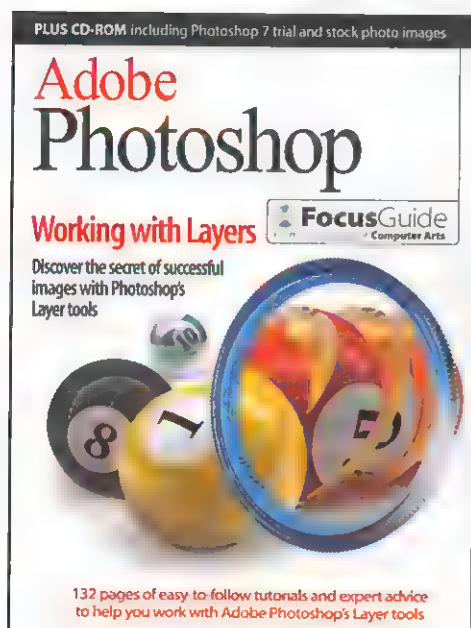
Swiss company AbsolutVision is home to photographers, graphic designers and professional lithographers. It was created to enable customers to download inexpensive, professional-quality, royalty-free photos. AbsolutVision is the first JPEG2000 photo library, and they're providing you with 20 free images for you to use in your own creative projects.



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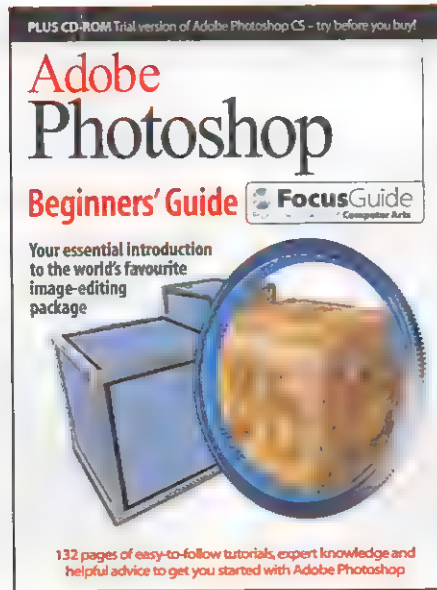
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Includes bonus CD with a trial version of Adobe Photoshop CS, exclusive video tutorials, professional-quality stock images and much more!

All contents subject to change



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Glossary

We always try to cut out the jargon, but it helps to add a few words of Photoshop-speak to your vocabulary...

Anti-aliasing

Moving pixels around can cause undesirable jagged edges to appear, where edited pixels have not blended smoothly together. Anti-aliasing refers to the process of smoothing out these jagged edges for a more natural look.

Blending modes

Blending modes are used to determine how the pixels in a layer are blended with underlying pixels on other layers. By applying specific blending modes to individual layers, you can create a wide variety of effects.

Brushes

Brushes enable you to paint on Photoshop images with colour, other bits of images and predefined patterns. They mimic real brushes in that you can alter their size, hardness and texture in order to achieve the effect you want.

Calibration

The process of adjusting a device to bring its behaviour into line with a known specification, helping to reproduce colours accurately. For example, colour monitors are calibrated to a specific colour temperature, gamma, and black-and-white luminance.

Colour channels

There are three or more colour channels in all full-colour images, depending on which colour mode you're using. For example, RGB mode contains red, green and blue channels, while CMYK mode contains cyan, magenta, yellow and black channels. Photoshop enables you to alter each channel independently.

Filters

A filter is a preset tool within Photoshop, which applies an effect to an image (or a selection within the image). Some filters apply their effect in one click, while others offer more complex settings. Filter categories include Sharpen, Blur, Artistic and Stylize. Each of these offer further options via fly-out menus. For a complete list, click in the Filter menu.

Gamut

The range of colour that a device (such as a printer) can produce, or the range of colour that a colour model can represent. If a colour is said to be 'out of gamut', it will not be reproduced accurately by the printing process or other intended destination.

.GIF (or .gif)

A type of image file format best suited to producing simple images for the web. Examples include logos, banners, buttons and anything made up of only a few flat colours.

Greyscale

An image is greyscale if it contains no colour information. Using Photoshop, you can transform a colour image into black-and-white, with many gradations of grey, in a single channel. This is known as a greyscale image.

.JPG (or .jpeg)

A type of image file format that gives a desirable combination of small file size and good-quality photo reproduction. It's commonly used in digital cameras to store the images that you take. The small file sizes also make it ideal for the web.

Layers

Layers containing effects or elements of images can be stacked on top of the original image layer (the background) in order to change the appearance of the image. Layers do not directly affect the layers beneath them, just as a blurry piece of glass placed over a photograph does not actually affect the photograph; in both cases, it's the appearance that has been changed, with the original image left unaltered.

Marquee

The flashing dotted outline that surrounds a selection. You'll also see it referred to in some places as 'marching ants'.

Rasterize

When you 'rasterize' a graphical element, you convert it from a vector to a pixel-based image. It will no longer be scalable like a vector, but can still be edited, like other images in Photoshop.

Resolution

A measure of how many pixels make up an image. A resolution of 300dpi (dots per inch) is recognised as the minimum if you're intending to print your images. 72dpi is sufficient for images intended for the web.

Selection

Any part of an image which you select with Photoshop's tools, usually indicated by a marquee around it. Making selections enables you to work on parts of an image, or remove them, without affecting the rest of the image.

Thumbnail

A small, 'thumbnail-sized' version of an image. You'll find

them in folders of images and in Photoshop's File Browser. Because they're smaller than a full-size image they're fast to load, and you can browse through them more quickly, which makes finding the file you're after much easier.

Pixel

An abbreviation for 'picture element', it's essentially a tiny dot of colour on screen. Most images are made up of millions of pixels, which combine to make an image look seamless. Zoom-in very close to an image, however, or enlarge it to a high degree, and you can clearly see these individual pixels.

PSD

Photoshop's own file format, which preserves elements such as layers and channels. If you're editing an image file, it's sensible to save it as a PSD, in order for the changes you've made to remain editable when you next open it.

Spot colour

A method of specifying and printing colours in which each colour is printed with its own separate ink. In contrast, process colour printing uses four inks (cyan, magenta, yellow and black) to produce all other colours.

Tool options bar

When a tool is selected, the corresponding tool options bar automatically appears along the top of the Photoshop window, giving you access to various options relating specifically to that tool. These often include effects such as Anti-aliasing and Feathering.

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with the help of our comprehensive index

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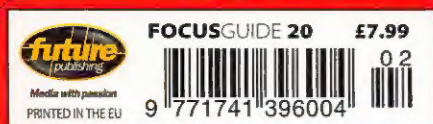
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